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Perception of health care professionals on the Factors Affecting the Quality of Health Care in Intensive Care Units at the Governmental Hospitals in the West Bank

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Perception of health care professionals on the Factors Affecting the Quality of Health Care in Intensive Care Units at the Governmental Hospitals in the West Bank

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Thesis Approval

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Dedication

To my Dear Parents, my Supportive husband Naser

And my lovely children

Abdullah, Basshar, Razan and Omar

To Dr. Asma Imam for all her support and Patience

With love and gratitude

Signature

Declaration

No portion of the work referred in this study has been submitted in support of an application for any other degree or qualification to this or any other university or other institution of learning.

Signed:

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Date: 1431/2010

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Abstract

Perception of health care professionals on the Factors Affecting the Quality of Health Care in Intensive Care Units at the Governmental Hospitals in the West Bank

Quality of health care is becoming a major issue that is considered by all health care institutions. Health care professionals and managers are more aware of its importance and effects on the health outcomes of patients/clients. The purpose of the study was to assess how the health care providers (doctors and nurses) perceive the quality of health care in the ICUs at Palestinian governmental hospitals in the West Bank.

A quantitative descriptive exploratory method was used to accomplish the research aim. A self- administered questionnaire was used. The study population was all the health care professionals who are working in eight governmental ICUs in the West Bank. The total population is 147 health care professionals, and the respondents were 122, which equals to 82.9% of the population. The study instrument was developed by the researcher depending on the previous literature and research, and it included assessment of the inputs, processes and outputs of health care.

The research results showed that the health care professionals (Nurses and physicians) in the ICUs perceived the quality of many factors studied as being low. Their perception about the physical structure was low (55.8%), infection control and safety measures very low (44%), the performance appraisal very low (50.8%) and the management support very low (54.4%). Moreover, the health care professionals perceived the quality of the relationship between them and the patients moderate (71%), the availability of protocols and standards moderate (71.6%), the professionals performance moderate (77.4%), and finally the accessibility and continuity to care moderate (66%). In addition to these results the research has showed that there was a significant relationship between age of health care professional, experience and working setting, and their perception of the quality of care. Moreover, the results showed that there was no relationship between the gender, qualification and continuous education and their perception of quality of care in their units.

There was no relationship between the quality of care and mortality rate, and between quality of care and length of stay as perceived by the health care professionals. However, there were relationship between quality of care and the clients' satisfaction and staff satisfaction as perceived by health care professionals.

Depending on the study results, the researcher has recommended to the decision makers in the Palestinian Ministry of Health to establish a quality improvement program with a clear action plan to help in changing the quality level in the different units especially ICUs and also to establish clear written standards and protocols in the ICUs. Also the researcher recommended the establishment of ICU training programs in the Palestinian universities. Moreover, and providing the health care professionals with continuous education in the different ICUs.

الملخص التنفيذي

تعد جودة الرعاية الصحية من القضايا الأساسية التي تهتم بها كافة المؤسسات الصحية.كذلك أصبح لدى الطواقم الصحية و إدارات المؤسسات الصحية وعي أكبر بأهمية جودة الرعاية المقدمة.
هدف هذا البحث إلى دراسة وجهة نظر الطواقم الصحية(الأطباء و التمريض) العاملين داخل وحدات العناية المركزة في المستشفيات الحكومية في الضفة الغربية حول جودة الرعاية الصحية المقدمة داخل هذه الوحدات.
تمت هذه الدراسة باستخدام أسلوب البحث الكمي، الوصفي، الإستكشافي حيث تم قياس جودة هذه العوامل من وجهة نظر العاملين الصحيين. لتحقيق هدف الدراسة قامت الباحثة بتوزيع استبانة على مجتمع الدراسة المكونة من(147) عامل صحي (أطباء و تمريض) ، و قد بلغت نسبة المشاركة 82.9 % (122عامل صحي). لقد تم تحضير الإستبانة من قبل الباحثة و قد تم تحديد هذه العوامل على أساس مدخلات، إجراءات و مخرجات.

بعد تحليل البيانات أظهرت نتائج الدراسة أن الإنطباع العام للعاملين الصحيين داخل وحدات العناية المركزة حول العوامل المؤثرة في جودة الرعاية الصحية متدني بشكل عام. فقد كانت وجهة نظر الطواقم الصحية حول التجهيزات ، الأدوات الطبية و الأجهزةأنها ذات جودة منخفضة(55.8%) . إجراءات الأمان و مكافحة العدوى منخفضة جدا(44.8%) . آليات تقييم الأداء منخفضة جدا(50.8%) ، و أخيرا دعم الإدارة تم تقييمه بأنه منخفض جدا(54.4%).
إمكانية الوصول إلى العلاج و استمراره كان تقييمه متوسط (66%)، القوانين و المعاييرداخل وحدات العناية المركزة كان تقييمها متوسط (71.6%)، علاقة الطاقم الصحي مع المرضى وأهلهم متوسطة من وجهة نظر أفراد الطواقم الصحية (71%)، و أخيرا أداء و أدوار الطاقم الصحي داخل وحدات العناية المركزة متوسط (77.4%).

أما فيما يتعلق ببعض مواصفات الطاقم الصحي و تأثيرها على تقييم الجودة فقد وجدت الباحثة أن هناك علاقة بين العمر، سنوات الخبرة و مكان العمل و بين تقييم مستوى الجودة، و على العكس أيضا لم تجد الباحثة أن هناك ارتباط بين النوع الاجتماعي، المؤهلات العلمية و البرامج التدريبية و بين تقييم مستوى الجودة.

لم يكن علاقة من وجهة نظر أفراد الطواقم الصحية بين جودة الرعاية الصحية و نسبة الوفيات أو فترة أيام الإقامة داخل وحدات العناية المركزة، بينما كانت وجهة نظرهم أن هناك علاقة بين الجودة و رضى المرضى و كذلك رضى أفراد الطواقم الصحية.

بناء على نتائج الدراسة أوصت الباحثة أصحاب القرار في وزارة الصحة الفلسطينية باستحداث برنامج تحسين الجودة مع خطة عمل واضحة للمساعدة في تحسين مستوى الجودة و خاصة في وحدات العناية المركزة.أيضا أوصت الباحثة باستحداث معايير و أنظمة مكتوبة للعمل داخل وحدات العناية المركزة و على مستوى وطني. إضافة إلى هذه التوصيات توصي الباحثة باستحداث برامج تعليمية تخصصية في العناية المركزة في الجامعات الفلسطينية، و كذلك تزويد الطواقم الصحية العاملة داخل وحدات العناية المركزة ببرامج تعليم مستمر للتأكد من جودة الرعاية الصحية التي يقدمونها.

Table of Contents:

No	Title	Page
	Declaration	i
	Acknowledgment	ii
	Abstract in English	iii
	Abstract in Arabic)	iv
	Table of contents	v
	List of Tables	vii
	List of figures	x
	List of Appendices	x i
	List of abbreviations	xii
	Chapter One	
Introduction		1
1.1	Problem Statement	3
1.2	Justification for the study	3
1.3	Purpose of the study	4
1.4	Objectives of the study	4
1.5	Study Questions	4
1.6	Study Hypothesis	4
1.7	Assumptions	5
	Chapter Two	
2.1	Quality Definitions	6
2.2	Standards of Health Care in ICUs	6
2.3	Quality assessment of ICU care	8
2.4	History of Quality Improvement in Health Care	8
2.5	Quality Theories	10
2.6	Research Reviewed	12
	Chapter Three	
3.1	Conceptual definitions	18
3.2	Operational definitions Definition	19
3.3	The conceptual framework	21
	Chapter Four	
4.1	Research Design	23
4.2	Population of the study	23
4.3	Study Instrument	24
4.4	Study Variables	25
4.5	Validity of the instrument	26
4.6	Reliability of the instrument	26
4.7	Pilot study	27

4.8	Ethical consideration	27
4.9	Study setting	27
4.10	Study period	27
4.11	Data Collection	27
4.12	Statistical analysis	28
4.13	Limitations of the study	28

Chapter Five

5.1	Demographic characteristics of the study respondents	29
5.2	Findings related to the study questions	30
5.3	Results pertinent to the Hypotheses of the study	39

Chapter six

6.1	Characteristics of health care professionals in ICUs at the governmental hospitals in the West Bank	59
6.2	Health care professional's perception about the ICUs physical structure	60
6.3	Health care professional's perception about infection control and safety measures in the ICUs	60
6.4	Health care professionals' perception about their performance in the ICUs	61
6.5	Health care professionals' perception about performance Appraisal procedures used in ICUs	61
6.6	Health care professionals' perception of the quality of their relationship the patients and their families	61
6.7	Health care professional's perception about protocols and standards in their units	62
6.8	Health care professionals' perception about management support	62
6.9	Health care professional's perception about Accessibility and continuity of care	63
6.10	Results pertinent to hypothesis of the study	63

Chapter Seven: Conclusions and Recommendations

7.1	Conclusion	68
7.2	Recommendations	68
	References	70
	Appendix	74

List of Tables

No	Title	Page
1.1	ICUs in governmental hospitals in West Bank	4
4.1	The number of health professionals in each unit according to hospitals	24
4.2	Reliability coefficients of the questionnaire	26
5.1	Respondent distribution	29
5.2	Respondents characteristics	30
5.3	Perception of health care professionals on the ICUs physical structure:	31
5.4	Professionals perception on infection control measures in ICUs:	32
5.5	professionals' perception on their performance in the ICUs	33
5.6	Professionals perception on the performance appraisal in ICUs	34
5.7	the professionals' perception on the relationship of health professionals with patients and their families	35
5.8	Professionals perception on protocols and standards in the ICUs	36
5.9	Professionals perception on management support in the ICUs	37
5.10	professionals perception on accessibility & continuity to care in the ICUs	38
5.11	Total score of health care professionals perception of health care quality in their units	39
5.12	health care professionals' perception of quality of health care in ICUs, according to age	39
5.13	ANOVA Test for health care professional's perception of health care quality in ICUs, according to age	40
5.14	Scheffe Post Hoc, for comparing the means of infection control & safety measures attributed to age	41
5.15	Scheffe Post Hoc, for comparing the means performance of health care professionals attributed to age variable	42
5.16	Scheffe Post Hoc, for comparing the means of protocols and standards attributed to age variable	42
5.17	Scheffe Post Hoc, for comparing the means of accessibility & continuity to care attributed to age	42
5.18	Scheffe Post Hoc, for comparing the means of total score, attributed to age	42
5.19	T-Test of health care professional's perception of health care quality of in their units, according to gender	43
5.20	health care professionals' perception of quality of health	43

	care in their units, according to their qualifications	
5.21	ANOVA Test for health care professionals' perception of quality of health care in their units, according to their qualifications	45
5.22	health care professionals' perception of quality of health care in their units, according to working setting	46
5.23	ANOVA Test for health care professionals' perception of health care quality their units, according to working setting	48
5.24	Scheffe Post Hoc, for comparing the means of physical structure, attributed to working setting	49
5.25	Scheffe Post Hoc, for comparing the means of infection control& safety measures, attributed to working setting	49
5.26	Scheffe Post Hoc, for comparing the means of performance appraisal, attributed to working setting	50
5.27	Scheffe Post Hoc, for comparing the means of protocols and standards, attributed to working setting	50
5.28	Scheffe Post Hoc, for comparing the means of management support, attributed to working setting	50
5.29	Scheffe Post Hoc, for comparing the means of accessibility and continuity to care, attributed to working setting	51
5.30	Scheffe Post Hoc, for comparing the means of total score, attributed to hospital variable	51
5.31	health care professional's perception of quality of health care in their units, according to Experience variable	52
5.32	ANOVA Test for health care professional's perception of quality of health care in their units, according to experience variable	53
5.33	Scheffe Post Hoc, for comparing the means of physical structure, attributed to years of experience	54
5.34	Scheffe Post Hoc, for comparing the means of infection control& safety measures, attributed to years of experience	54
5.35	Scheffe Post Hoc, for comparing the means of health care professional's performance, attributed to years of experience	54
5.36	Post Hoc, for comparing the means of performance appraisal, attributed to years of experience	55
5.37	Scheffe Post Hoc, for comparing the means of relationship of health professionals with patients and their families', attributed to years of experience	55
5.38	Scheffe Post Hoc, for comparing the means of protocols and standards, attributed to Experience variable	55
5.39	Scheffe Post Hoc, for comparing the means of management support, attributed to years of experience	55
5.40	Scheffe Post Hoc, for comparing the means of accessibility & continuity to care, attributed to years of experience	56
5.41	Scheffe Post Hoc, for comparing the means of total score, attributed to years of experience	56
5.42	T-Test of health care professionals' perception of quality	57

	of health care in their units, according to continuing education activities variable	
5.43	Pearson Correlation Coefficient between Quality of care and Healthcare professionals' satisfaction, Clients satisfaction, Mortality rate and length of stay	57

List of Figures:

Figure 1.1 Shewhart Cycle for quality management Page 12

Figure 3-1: The conceptual framework of the research
(Health care professionals' perception of quality in ICU) Page 21

List of Appendices

Appendix 1	An official letter from Al-Quds University to conduct a study About the factors affecting quality of health care in Governmental ICUs from the perception of health care Professionals.
Appendix 2	An official letter from MOH General Director of Hospitals of research Approval
Appendix 3	Arabic Version of the Questionnaire
Appendix 4	English Version of the Questionnaire

List of abbreviations:

AACN	American association for critical care nursing
ANA	American Nursing Association
ANOVA	Analysis of Variance
CACCN	Canadian Association for critical care nurses
CCU	Critical Care Unit
DF	Degree of Freedom
F	Frequency
ICU	Intensive care unit
JACOAH	Joint Commission of Accreditation of Hospitals
M	Mean
No.	Number
PNA	Palestinian National Authority
PMOH	Palestinian Ministry of Health
PACCS	Palestinian Association of Critical Care services
PCBS	Palestinian Central Bureau of Statistics
SD	Standard Deviation
UK	United Kingdom
WHO	World Health Organization

CHAPTER ONE

Introduction:

Providing health care services by highly qualified and specialized professionals, through proper equipped services and through the right system and procedure, leads to the required quality outcome. Quality of health care services has become a goal for health care institutions because it has become a method for providing competitive services. Moreover, health care consumers are more oriented to their rights; they can differentiate malpractice, and can notice incompetent health care professionals. On the other hand, health care professionals are becoming more specialized and qualified and so the level of services they provide is improving. To achieve the required outputs of health care, all health care professionals must work together by unifying their efforts and organizing their processes and tasks for the benefit of both the health care consumers and health institutions. This cooperation and coordination of efforts will result in high quality of health care services.

To achieve a high quality of health care, the management system and leadership style are important factors that should be taken into consideration. Leadership refers to the ability of individuals to influence other members toward the achievement of the team's goals (McLaughlin & Kaluzny 2006, p.179). To achieve better quality of care, the appropriate leadership needed is one that encourages cooperation and builds trust among team members. Good managers work on team development and enhance maturity and effectiveness of team members. Also successful managers should work on motivating their teams to enhance better outcomes and improve quality. (McLaughlin & Kaluzny, 2006).

Quality of health care is defined as "the proper performance (according to standards) of interventions that are affordable to society in question, and that have the ability to produce an impact on mortality, morbidity, disability and malnutrition."
(WHO, http://www.bibalex.org/supercourse/lecture/lec2761009.htm).

It is clear that quality development is becoming a major issue and priority in health care all over the world. This was noticed from the development of different standards of care in different countries like the development of standards for intensive care units in the United Kingdom, developed by the intensive care society in 1997; Standards for critical care nursing practice in Canada, and standards for establishing and sustaining health care environment in the United States. Other methods used for quality development included the accreditation process like that of JACHO which puts specific conditions to be met for the achievement of accreditation.

To assess the quality of health services is difficult because it is necessary to study the different steps that produce the health service including the inputs, processes and the outputs. In addition, the health care providers and consumers may perceive the quality of services differently.

The Institute of Medicine (1995) reported an increase in the use of costly and modern technologies, a decreased use of inexpensive health services and improper provision of care that may cause malpractice and resource abuse. Low quality care often increases the costs of care through waste of materials, the need to repeat activities, and

duplication. So quality improvement is the best method for a reformed health care system (Graham ,1995).

Health institutions' administrations devote big efforts everywhere to increase the quality of health services .To this end, they have set up quality programs that help in improving the health services, increasing work effectiveness and achieving consumer's satisfaction. (Messner & Lewis, 1996).

Because the ICUs need new technologies and equipment, to provide better quality health services, they need a huge budget. The ICUs need highly qualified nurse: the nurse - patient ratio is usually1:1, this makes their use or operation more expensive. According to Mallick & Lambrinos (1995) the ICUs consume 15-20% of total hospital budget. To control the costs of these units, the following steps may be useful:
- Control of admissions to those who really need them
- Efficient treatment through the proper arrangement of resources and staff
- Decrease of the length of stay.
- Providing high quality care through efficient and cost effective services.

In most Palestinian hospitals, there is still no clear quality system. The health sector needs a lot of assistance to reach acceptable quality standards. The Palestinian hospitals are mostly poorly equipped; the ratio of population to bed is low and equals 1.2 per 1000 population according to the Jewish Virtual library report. Although the Palestinian Ministry of Health (PMOH) has done a lot to improve the quality level of services in the last 15 years, by trying to provide the hospitals with new technologies, increasing the number of health care providers and establishing new health care services, there is still no clear standard of care. There are also no studies about how the health care professionals or consumers evaluate the quality of the services (PMOH, 2008). Consumer's satisfaction is the only method used by PMOH to measure the level of health care quality. However, it is not consistently measured.

Government hospitals are vital to the Palestinian community because they offer their services to the majority of the population. The Israeli military occupation makes it so difficult to the Palestinians to seek health care in other areas because of the closure of borders. In the past, the Palestinian could seek intensive health care in Jerusalem, but now it has become much more difficult. Also the sudden and frequent onset of break out of clashes and confrontations between the Palestinians and Israel army and settlers increases the need for ICUs. The first CCU and ICU were opened at Al-Makassed hospital in 1982 and 1985, and then an ICU was opened in Rafidia hospital in 1989. The total number of ICU beds in Palestinian government hospitals was 19 in 2002, and then the PMOH increased the number of ICU beds to 40 beds in 2008. (PMOH Information Center). Some private hospitals also provide intensive care. These include Al-Ahli hospital in Hebron, Bethlehem Arab Society hospital in Bethlehem…etc, but they are usually so expensive and unaffordable to low income individuals. Therefore, decision makers in the PMOH should make their best to provide their consumers with the highest and most effective health services. To do so, they should realize and identify the factors that may affect the quality of health services and this can be done through a clear definition of quality of care and combination of this definition with the perception and expectations of the health care providers and consumers.

Studying the factors affecting quality of health care may help in determining the

variables that lead to health services improvement or deterioration. Health care professionals' perception of quality of health service may affect the level of services they provide to the community, and this will affect health outcomes of the consumers they serve.

1.1 Statement of the problem

The government hospitals in Palestine are important in supplying the Palestinian citizens with adult intensive care services given the fact that a high percentage of the Palestinians are covered by the governmental health insurance. Intensive care is a sophisticated type of health services that needs special preparation of the health care professionals, management system and unit structures. The PMOH has 40 intensive care beds distributed among eight hospitals in the West Bank, namely Jenin, Tulkarem, Nablus (Al-Watani & Rafidia) Ramallah, Jericho, Beit Jala and Hebron hospitals.

The average monthly patient's admissions in the ICUs of the government hospitals were 286 according to the PMOH statistics (2008). The outcomes of treatment in ICUs vary from cure, returning home with complications, to prolonged hospital stay or even death. All these outcomes may be an indication of the quality of the services. The quality of services in ICUs varies. However, there are no studies about the quality of outcomes or the factors that may affect the quality of services in these ICUs. These results may be an indication of the quality services in the ICUs. Against this background, the purpose of the study is to identify the factors that may affect quality of healthcare in ICUs and to assess how the health care providers perceive the quality of these services.

1.2 Justification of the study

The purpose of health care services is to provide high quality care that satisfies the consumer's needs. The Palestinian National Authority (PNA) has always sought to provide these services in a manner that is effective, efficient, and protects the health and rights of patients and satisfies both the health care consumers and providers. (PMOH, 2008).

However, in the Palestinian governmental hospitals in the West Bank, there are no regular assessments of quality of health care. There are also no written standards for the care provided, and the health care professionals depend only on their knowledge and experience in providing the care. Moreover, no studies have been conducted on the quality of care in the ICUs.

The outcomes of health services may be cure, prolonged hospital stay, or even death, and all these results depend on the quality of health services provided. There are no previous studies about the quality of care in the ICUs at the Palestinian governmental hospitals.

Table 1.1 shows the high number of admissions and the average days of hospital stay which ranges from 1.4- 5.3. The mortality rates per month are high as shown in the table. These indicators are important in the assessment of quality of the health care provided, and so this study may show the professionals perception about these indicators.

Table1.1: ICUs in government hospitals in the West Bank.

Name of hospital	Number of beds	Average monthly admissions	Average mortality*	Average days of hospital stay
Jenin	4	17	-	5,3
Tulkarem	7	19	3,6	2
Al-Watani (nablus)	7	69	9,4	1,4
Rafeedia (nablus)	4	29	2,8	2,7
Ramallah	6	65	11,4	3,4
Beit Jala	5	43	7,7	2,7
Jericho	2	5	1	3
Hebron	5	39	7,2	2,4

Source: Health Information Center, PMOH (2008)

1.3 Purpose of the study

The purpose of the study is to assess how the health care providers (doctors and nurses) perceive the quality of health care in the ICUs in Governmental hospitals in the West Bank.

1.4 Objectives of the study

- To assess the health care professionals (nurses and doctors working in ICUs)'s perception of quality of health care in the ICUs at the government hospitals
- To determine the relationship between certain demographic variables of the respondents and their perception of quality of care in the ICUs.
- To determine the extent of relationship between quality of care and some selected outcomes.

1.5 Questions of the study

- How do the health care professionals perceive quality of health care in their units?
- Do the demographic variables of nurses and physicians affect their perception of quality?
- What is the relationship between quality of care and some selected outcomes (Health care professional satisfaction, client's satisfaction, mortality rate and days of hospitalization) from the health care professionals' perception?

1.6 Hypothesis of the study

The following hypothesis of the study were tested at $\alpha \leq 0.05$

- There are no significant differences at $\alpha \leq 0.05$ among health care professionals perception of the quality of health care in the ICUs related to age.
- There are no significant differences at $\alpha \leq 0.05$ among health care professionals perception of quality of health care in the ICUs related to gender.
- There are no significant differences $\alpha \leq 0.05$ among health care professionals perception of quality of health care in ICUs related to academic qualification.
- There are no significant differences $\alpha \leq 0.05$ among health care professionals

perception of quality of health care in ICUs related to the working setting.
- There are no significant differences $\alpha \leq 0.05$ among health care professionals perception of quality of health care in ICUs related to years of work experience.
- There are no significant differences $\alpha \leq 0.05$ among health care professionals perception of quality of health care in ICUs related to continuing education activities.
- There are no significant differences $\alpha \leq 0.05$ among health care professionals perception of quality of health care related to some selected outcomes.

1.7 Assumptions

Prior to conducting this study, the following assumptions were made:
- The participants are cooperative and informative.
- The instrument used in this study is valid and reliable.
- All participants would read the questionnaire carefully and respond truthfully.

Summary:

This study sought to identify some factors that may affect the quality of health care in the ICUs from the literature available in the field, and then assess how the health care professionals in the government hospitals perceived health care quality level. This study was conducted due to the absence of previous studies about the quality of care in the ICUs. The researcher hopes the decision makers in the PMOH or the directors in the different hospitals will make use of the results of this study as a guide for them to plan for quality improvement in the ICUs.

CHAPTER TWO

Review of Relevant Literature

Introduction

This chapter includes a review of relevant literature, quality definitions, standards of health care in the ICUs, quality assessment of ICU care, history of quality improvement and quality theories. The chapter also reviews important research studies related to quality. Books, peer- reviewed journals, master thesis; different data bases were searched to find relevant factors that may influence the quality of care in the ICUs.

2.1 Quality definitions

Health care quality is "the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge." (Institute of Medicine (IOM), 1994, Marquis and Huston, 2006,p. 3).

Quality in health services can be defined as fully meeting requirements of lowest cost or more specifically fully meeting the needs of those who need the service most at lowest cost to the organization within the limits and directives set by higher authorities and purchasers (Clark & Copcutt, 1997).

2.2 Standards of health care in the ICUs

Quality has been an important issue in health care for many decades; it is achieved through the professional standards, guidelines and codes of the professions involved in health care.

A standard is "a predetermined level of excellence that serves as a guide for practice. Standards have distinguishing characteristics; they are predetermined, established by an authority, and communicated to and accepted by the people affected by them. Because standards are used as measurement tools, they must be objective, measurable and achievable." (Marquis and Huston 2006, p.3)

The American Nurses Association (ANA) was the first nursing association to publish standards for nursing practice in 1973. Nursing specialty organizations then followed by creating standards for specialty nurses that were equal to those of ANA. (Zimmermann, 2002, p.187).The American Association for Critical Care Nurses (AACN) is an example of such organizations.

Several international standards documents have been published like standards of Task Force of European Society of Intensive Care Medicine (1997), the AACN (Task Force on Guidelines, 1988-94) and the World Federation of Societies of Intensive and Critical Care Medicine (International Task Force, 1993)

In the UK, the present standards are mainly related to buildings, services, deployment of nurse and for some items of equipments. There are several opinions related to organization, staffing, and structure. Currently more attention is given to the standards to match between patient's needs and their care. (Intensive Care Society, 1997)

Intensive care needs the use of a high level of modern and complicated technologies to be used continuously for patient care. Major things that an ICU should be provided with are the preventive measures, equipment for diagnosis and treatment of the different and multiple organ failures .An ICU, for example, needs ventilatory, circulatory and renal support measures. Clear working policies are needed in ICU, and the minimum nurse- patient ratio should be 1:1 .Increasing the number of nurses according to patients needs should be also considered. Special training needs for the team members in the ICU and special geographical arrangements are necessary for high quality patient care.

The work load should be considered to help health care professionals maintain good skills and experience. Effective communication is important, and finally, a good audit of ICU activities will be an important method to ensure better outcome. (Intensive Care Society, 1997)

The (AACN) has set standards for establishing and sustaining healthy environments. These standards include communication skills, effort collaboration, proper decision making, proper staffing, suitable recognition of each health care professional and finally, good leadership to support healthy work environment. These standards are important for the provision of proper performance and development teams, unit organizations and systems. Moreover, they ensure that critical care nurse is skillful, accountable and has the authority to make better decisions for care of patients and their families. (McCauley, AACN, 2004-2005)

Sarasota Memorial Hospital standards of care in ICU include four standards. The first standard related to safety measures includes measures like infection control; name band, five medication administration rights, and other necessary measures are for the realization of this standard. The second standard related to nursing care which means that patient will receive nursing care based on the nursing process from assessment to planning. The third standard is patient and family education to improve their knowledge, skills and behaviors according to their health needs. The teaching starts from admission until discharge. The fourth standard is the continuum of care and the satisfaction, comfort and pain management, patient's rights, confidentiality and cultural values. These standards of care must be considered by ICU staff. (Sarasota Memorial Hospital Standards of Care Document, 2008)

The Canadian Association of Critical Care Nurses (CACCN), in its third edition of the *Standards for Critical Care Nursing Practice*, has identified ICU standards under structures, processes and outcomes standards. Qualified personnel, critical care committee, documentation system, team approach are important standards the CACCN has set as structural standards. Pertaining to processes standards, the CACCN identified special criteria for data collection and documentation, analysis of data by ICU nurses, interventions based on nursing diagnosis, and criteria for implementation of nursing care plan. Special evaluation criteria were set to identify the outcomes of care provided such as patient satisfaction. The professional relationship with patients and their family, the professional legal and ethical standards were among the important standards set by the association. (CACCN,Hynes, 2004)

2.3 Quality assessment of ICU care

Different methods are used for the assessment of the quality of health care provided. Donabedian model discussed three important components in his assessment: structure, process and outcome. Structural assessment includes the health care area and health care providers. Process assessment includes the different steps of care, and the services provided, and finally the outcome assessment includes the results of the care provided.
Previously, quality assessment and improvement were done on the bases of structure and processes of care. The quality of the care provided was evaluated by referring to standards of health care structures and processes. The standards were defined by health care professionals.
The care outcomes were defined as a sign for quality of care provided because they are less bias measures than the standards. Also, the outcomes are mentioned in most of the definitions used to describe the quality of care, such as "the degree to which health services for individuals and populations increase the likelihood of desired health outcome and are consistent with current professional knowledge" (Treurniet, M.Mackenbach, Maas,1997).

The quality of health care is not easy to be assessed by a person who is sick and tired. In the relevant literature, "patient's satisfaction with health care is related to the ordinary human virtues of communication, sensitivity, respect, independability, trust and personalized service." (Messner Lewis, 1996, p. 3)

To evaluate the efeectiveness and efficiency of health care, the client outcomes are a major issue or a standard that should be considered. The reason for that is that any differences in the practices or processes will be associated with changes in outcomes and resources use. (Braden, 1998).

One of the outcomes is patient's satisfaction that is defined as "the degree of congruency between patient's expectations of ideal care and his/her perception of actual care received." (Messner and Lewis, 1996, P. 6). Health care consumers expect to be provided with the best care. They want professional competence, accurate diagnoses, state-of-the-art treatment, and no complications. (Consumer's Checkbook, 1992; Messner and Lewis, 1996, p. 2)

2.4 History of quality improvement in health care

Much has been written about ways to measure quality and to improve the quality of care for different types of patients and health care organizations. Nurses have been concerned with the quality of care they provide at least since the days of Florence Nightingale. Nightingale stressed the importance of fresh air, light warmth, cleanliness and proper diet for better outcomes of nursing care. Richards (1870) showed that mortality and morbidity rates had dropped by the help of trained nurses. In 1890,s Sir Williams Aster discussed the unit structure importance to the performance of work (Ashour, 1993).

The end result system has been emphasized by Codman between 1910-1915.Codman's study emphasized the same issues discussed today in assessment of quality, including taking into consideration the severity or stage of illness, co-morbidity issue, the health and illness behavior of the patient and the economic barriers to receiving care.(Graham

1990,p 6-7; McLaughlin and Kaluzny, 2006,p. 71).

In 1918, the American College of Surgeons started Hospital Standardization Program which led to accreditation process, and in 1951 the Hospital Standardization Program became the Joint Commission on Accreditation of Hospitals (JACHO) which works on the accreditation of hospitals. Their major goal has been quality improvement of care that health care organizations provide to the community. JACHO works on ensuring that health care organization provides the highest level of care. In 1995, JACHO concentrated on patient care activities that can be generalized in all organizations .There activities included patient's rights and organizational ethics, assessment and patient care, education and continuity of care. Nursing performance had to be evaluated in all these functions. (Zimmermann, 2002, p.192).

A lot of important research took place in the mid-1900s, studying quality and developing criteria, standards and protocols. (McLaughlin and Kaluzny, 2006).The first nursing audit was developed in 1957 at Thayer Hospital in Maine, and in 1967, evaluation of care was defined as one of the four functions of the nursing process. (Zimmermann, 2002, p. 187).

In 1970s and 1980s drastic changes occurred. These changes include medical technology advancement, medical care, high expenses and quality problems that arise.Thus, the need for quality measurement has became a priority. According to Marquis and Huston (2006) evaluation of quality can be achieved by

- Standard determination.
- Data collection to evaluate the achievement of standard.
- Taking action if the standard was not met.

Evaluating the effectiveness of health services to achieve the needed outcomes is necessary to evaluate the quality of care. Health care professionals provide their clients with many different services. The quality of health services can be done at two levels of analysis: general or macro, specific or micro levels. The macro level concentrates on evaluating the quality of the overall care services delivered to clients during a particular care. Hospital quality assurance programs an example of the macro level of quality evaluation. At the micro level, the concentration is on evaluation of quality for some programs or interventions; this describes evaluation of effectiveness in producing expected outcomes. (Braden, 1998).

An audit is a systematic and official examination of a record, process, structure, environment, or account to evaluate performance. (Marquis and Huston 2006). The use of auditing in health care services is a method that can be used by managers to evaluate and control the quality of care. The most common audit used in quality control includes the outcome, process and structure audits. (Marquis and Huston, 2006).

Maintaining the necessary knowledge and skills is linked with quality process. Deming (1980s) linked two of the fourteen points of organizational transformation to increasing the knowledge base of the teamwork. In nursing, standard continuing education is provided with clinical competence as the measurable outcome to improve quality. (Zimmermann, 2002, p. 191)

There are different models that are used for quality assurance in the world; one of these models is the ISO 9000 which is a generic system that specifies in very broad terms the needed components of a quality management system. It is not special for any industry and it was first published in 1987 by the International Organization for Standardization. Another model is the Joint Commission model (J.C.I 2001) which evaluates and accredits nearly 19000 health care organizations and programs in the United States. Since 1951 the JC has developed state-of-the art, professionally based standards and evaluated the compliance of health care organizations against these benchmarks. (Sote, 2005)

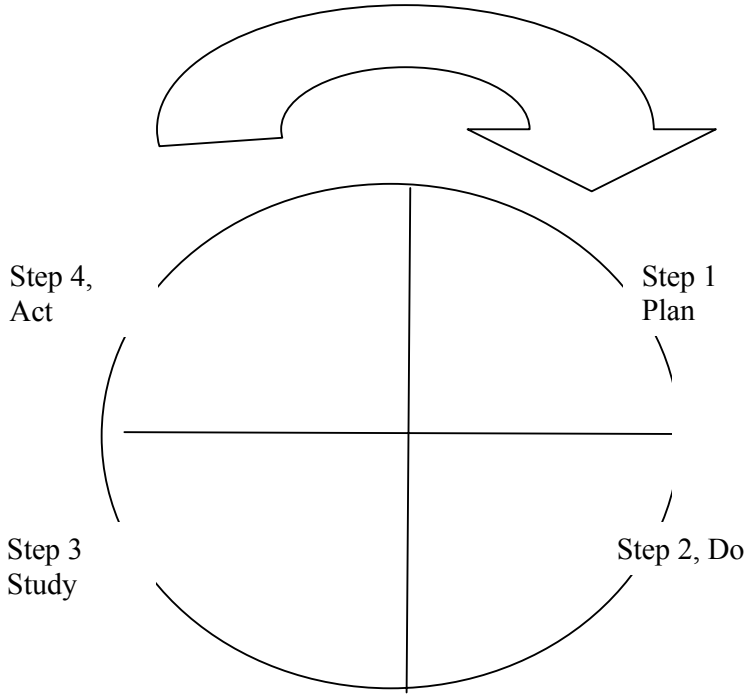
2.5 Quality theories

Many theories about quality improvement have been developed. Theories and tools, developed by Shewhar & Deming (1980s), were important in the formation the quality objectives, processes and successes of the quality improvement in health care. (Mclaughlin and Kaluzny, 2006).

Shewhart theory:

Shewhart, the father of contemporary quality control, developed the Shewhart Cycle– the quality management concept and tool which is known as the PDCA cycle. Easy to understand, this cycle is divided into four quadrants: Plan, DO, Check and Act. This process is continuous like the continuous quality improvement. It was clear that the price did not give the real value of care. Shewhart was aware of the difficulty in defining quality, but he believed that the professionals could give operational definitions: standards. Also he highlighted the importance of statistical process in quality improvement activities. If there is a difference or change in process, the cause of this change must be realized and excluded. To identify the change and understand its causes and eliminate them are the primary purpose of total quality management. (Mclaughlin and Kaluzny, 2006, p.21)

According to Shewhart, step one in the cycle is planning. This can define the best accomplishments possible for a team, and what kind of change may be needed and then put plans to achieve them. The second step in the cycle is data collection and implementation of the change, the third step is observation of the effects of change. The final step is evaluation of the results of the change.
(Mclaughlin and Kaluzny, 2006, p.23)



Deming Theory:

Deming was the first to introduce total quality management. In 1950, he was invited by the Japanese to help them rebuild their economy. Deming is well known for the 14-point program of recommendation that he used for management in order to improve quality. He focused on processes more than structures; he believed that improvement process is cyclical and stressed the statistical analysis of objective data. He argued that quality is a management role because the employee's work in the system, but the management deals with the system. The following are Deming's 14-point program:

1- Create and publish to all employees a statement of the aim and purposes of the company or other organization. The management must demonstrate constantly their commitment to this statement.
2- Learn the new philosophy, top management and everybody.
3- Understand the purpose of inspection, for improvement of processes and reduction of cost.
4- End the practice of awarding business on the bases of practice tag alone.
5- Improve constantly and forever the system of production and service.
6- Institute training.
7- Teach the institute leadership.
8- Drive out fear. Create trust. Create a climate for innovation.
9- Optimize toward the aims and purposes of the company the efforts teams, groups, staff area.
10- Eliminate exhortations for the work force.
11a- Eliminate numerical quotes for production. Instead learn and institute methods for improvement.
11b- Eliminate management by objective.
12- Remove barriers that rob people of pride of workmanship.

13- Encourage education and self improvement for everyone.
14 - Take action to accomplish the transformation.
(Mclaughlin and Kaluzny, 2006, p.24)

Crosby Theory:

Another theoretical framework on management was developed by Crosby in 1980s. He didn't focus on statistical process control method but he came up with the idea of "Zero defects". Crosby asked two questions: What is quality? What standards and systems are needed to achieve quality? He gave an answer with four absolutes of quality. The first absolute is conformance to requirements: do it right the first time. The second is defect prevention. The third is zero defects and the final absolute is that the cost of nonconformance is the only appropriate measure of quality. Crosby believed that management needs to be experienced in a set of 14 management skills which he identified with the development of support system. Also, individuals need to be trained in some kinds of tools like statistical techniques, problem solving and so on. When the top management is not accepting the philosophy of continuous quality improvement, Crosby's concept of the cost of quality is a good model to use. (Mclaughlin and Kaluzny, 2006, p.26-27).

"Continuous quality management" is a cyclical process in which ongoing efforts are made to improve the quality of patient's care (Hunt, 1992; Tappen, 1995, P. 462)
Continuous quality improvement has the following components:

- Teamwork: The ability to work with team members where each professional can understand the value that each member can add to the patient's care.
- Patient's perspectives about quality: To evaluate the quality of care provided the level of patient's satisfaction and care outcome should be considered.
- Measurement of work processes
- The adequacy of the resources available including adequate staff, equipment, or even sufficient information

So these elements are necessary to improve the quality of health services provided. (Tappen, 1995)

Donabedian's theory for measuring quality is important because it discusses structure, processes and outputs. he also presented the importance of the accessibility and continuity of care as a major component of quality. Processes may include safety measures and equity of care provided. . (Allison & Renpenning, 1999, p. 177).

According to Wilson & Goldschmidt (1995) effectiveness of care provided is a major component in quality management. Health care quality management goal is to design and document effective interventions, to ensure and document the proper application in clinical practice, to measure health care outcomes and to use this information on process and outcome variation to be able to produce cost effective health care .

2.6 Research reviewed

Several studies have investigated the factors affecting quality and effectiveness of nursing care.

Vinitwankhun (1998) investigated the factors related to organizational effectiveness of administrators and faculty members in the nursing institutes. A survey was done in six public and seven private hospitals. Eight factors, namley environment, technology, leadership style, culture, strategic planning, human resource development, structural design, and power control, were selected as important factors affecting organizational effectiveness. The results of this study showed that only four of these factors (leadership style, technology, strategic planning and human resource development) significantly explained organizational effectiveness. In addition, it was found that leadership style was the best predictor of the perceived organizational effectiveness because of the importance of leadership in all types of team activities in organization.

Sahidzadeh , Omidvari, Baradaran, and Azin (2006) studied the factors affecting the quality of care in family planning clinics. The study focused on the provider - consumer interaction. The researchers used a version of a UNICEF checklist and a convenient sampling method to assess quality of care in 396 visits to the family planning sections at 25 delivery centers. The study results showed that poor performance was observed clearly in counseling and choice of method. The factors identified to be linked with higher quality of care were provider experience, low provider education, smaller workload at the clinic, and new client status. This study has found that counseling and information exchange were the quality domains that needed improvement. The study recommended that a priority should be given to provide effective supervision mechanisms and on-the-job training to senior nursing and midwifery graduates.

Fort and Voltero (2004) conducted a study on the factors affecting the performance of maternal health care providers in Armenia. The study was conducted as an extension to a baseline assessment of provider performance to inform the implementation of a USAID-funded project which aimed at improving maternal and neonatal health. The methodology of this research included a survey of the study sample. First, the researcher made observation of 285 nurses and midwives in their antenatal and postpartum/neonatal units Then, he made interviews with them to discuss the presence or absence of the performance factors within their work environment. The study results found that the factors influencing performance outcomes were job expectations, performance feedback, environment and tools, motivation and incentives, and knowledge and skills. The study presented some issues in the work environment which had an effect on performance. For example, the results indicated that the practical application of skills in the everyday clinic tools affected performance more than the theoretical knowledge.

Furr, Binkley, McCurren, and Currico (2004) discussed the factors affecting quality of oral care in intensive care units. The purpose of their research was to understand how hospital factors and nurses' background, education, and attitudes affected the quality of oral care in the ICUs. The factors studied were the facilitating factors, including education and years of ICU experience, barriers including time available for the procedure and supplies and equipments provided by hospital, and finally moderating factors which included the value or importance of the procedure and the perception of the procedure as an unpleasant experience. Methodology of study was a survey of 102 institutions and 556 surveys. The study results showed that oral care for mechanically ventilated patients could be improved by providing oral care education, providing nursing staff with adequate time, reducing the perception that oral care is unpleasant

and making oral care a priority in nursing care in ICUs. So this study gave an indication that level of education and years of experience, supplies and equipment, and the perceptions of the health care provider could affect the quality of care they provide.

Shortell, Zimmerman,Rousseau, Gillies, Wagner, Draper, Knaus,& Duffy (1994) examined the factors associated with risk adjusted mortality, risk adjusted average length of stay, nurse turnover, evaluated technical quality care and evaluated ability to meet family member's needs. Methodology of the study included data collection from 17,440 patients across 42 American ICUs. The study results showed that the presence of technology in the units would lead to lower risk mortality. The use of different diagnostic methods would lead to greater adjustment of mortality risk. Health care professional's interaction with the culture, leadership, coordination, communication and conflict management abilities of the unit would lead to lower risk adjusted length of stay, decrease nurse turnover, higher evaluated technical quality of care and greater ability to meet family member's needs. In addition, units with greater technological availability are usually associated with hospitals that are more profitable, concerned in teaching their teams and having active leaders who participate in quality improvement activities.

Lin, Chaboyer, and Wallis (2008) analyzed the organizational, individual and teamwork factors that affect the ICU discharge process. The methodology of this research was reviewing the available literature about how these factors influenced the ICU discharge process. Databases related to the subject from CINAHL, MEDLINE, PROQUEST, SCIENCE DIRECT were included in the study with no limitation on the year of publication. Twenty one articles were included in the review. Study results showed that the organizational factors included guidelines and policies, resource availability, and organizational interventions on flow and performance. A limited number of critical care organizations have written guidelines for the ICU's patient discharge process. According to the study, this may lead to poor decision making regarding discharge of patient and decrease in quality of results. Individual factors, namely lack of knowledge and skills among team members, were the main reason behind ICU's failure to discharge the patient. Concerning the team work factors, the role of an effective team in accomplishing complex tasks has been well studied. Understanding professional roles and responsibilities would lead to a better professional competency.

Toresund and McMurray (2009) studied the registered nurses' perspectives towards practice quality in one Australian ICU. The methodology of the research was a mini-ethnographic case study that studied how quality was started in the culture of ICU nursing. Ten female nurses were included in this study out of 72 nurses who were working in the 13 beds of the ICU. The average age of participants was 45 and average ICU experience was 9.2 years. Analysis of the interviews showed that maintaining cohesiveness in a complex and stressful environment; rapid, effective and respectful communication and specialist knowledge, gained through experience and formal learning, were major issues that had influenced the quality of nursing care in the ICU. To maintain cohesiveness in a complex and stressful environment, support and teamwork are major factors which influence the nurse's perspective of quality, cultural pattern and mutual respect and communication .

Gurses and Carayon (2008) identified performance obstacles as perceived by intensive care nurses. The methodology of this research was a qualitative research design

through semi- structured interviews of 15 ICU nurses. The study results have identified that performance obstacles experienced by ICU nurses

- Physical environment like noise and amount of space.
- Family relations like lack of time to spend with family or distractions caused by family.
- Equipment, e.g. availability or misplacement.
- Supplies: delays in getting medication from pharmacy or inadequate supplies
- Obstacles related to information transfer and communication.
- Obstacles related to help from others like getting poor, not timely or inadequate help from others including nursing assistants, other nurses or others.
- Obstacles related to intra-hospital transport.

Performance obstacles in this research were defined as the ICU work factors that increase the nurses work load in a way that negatively affect the quality of their performance, so in conclusion all these obstacles are considered as factors that may affect the quality of care provided by nurses.

West, Mays, Rafferty, Rowan, and Sanderson (2007) examined the nursing resources and patient outcomes in the ICU. The major goal of this study was to evaluate the empirical evidence linking nursing resources to patient outcomes in the ICUs. The rationale behind this study was the large percentage of the health care budget used by the ICU and the large percentage of the ICU budget used by the nursing team. The methodology of this research included systematic review of previous research which studied the effect of nursing resources, like nurse-patient ratios, nurse's level of education, training and experience, on patient outcomes including mortality and adverse events in the adult's ICUs. It was found that there was a relationship between nursing resources and both mortality and complications. One of these studies showed a relationship with mortality only, seven studies revealed a relationship between nursing resources and mortality. Ten studies showed a relationship with adverse events. The studies reviewed depended on the theory that work load and nursing shortage have effects on patient outcomes including monitoring, early detection of adverse events and preventive measures. One of the studies reviewed found a relationship between nursing and patient experience of pain that may affect development of complications.

Olsen, Dysvik and Hansen (2009) investigated what the presence of family members meant to patients in the ICUs. The descriptive qualitative method was used Interviews and open-ended questions from a semi-structured interview were employed. Eleven ICU patients, out of seventeen, agreed to participate in the study. The research results showed that patients preferred some restrictions on visitors and close family members. These visitors have different effects; they may be supportive or may be stressful for both the patient and his family. Another important issue is providing the patients with information to keep them reality oriented. Therefore visits to ICU and information to the families are important to both families and patients.

Gruenberg et.al (2006) conducted a study on the factors affecting length of stay and outcomes of care in the intensive care units. The methodology for the research included literature review, articles published between January 1990 and March 2005 in English language journals indexed by MEDLINE, studies on outcomes and costs of care in the ICU and on care at end of life. Information in each article was reviewed

separately and compared with other articles. The different factors affecting length of stay in the ICU were summarized as institutional, medical, social, and psychological. Variation in geographic location, resources, organizational structure, and leadership were defined as institutional factors. Medical factors included the influence of specific medical interventions or specific clinical laboratory values on length of stay. Pertaining to the social factors, the study showed that quality of communication between patients' families and physicians or other health care professionals often led to stress, thus causing improper expectations and increases in length of stays in the ICUs.

ICUs are usually used for treatment of severe illness, and so it is not easy to evaluate the treatment outcomes. Research about ICU management showed that organizational characteristics of an ICU and especially the quality of communication between team members had an effect on patient outcome (Carsonet et al.1996; Shortell et al. 1994; Nemeth 2008)

Researchers have also studied the effect of group behavior on performance, the inputs-process- output model. They found a relationship between team work and team effectiveness (Hackman 1990; McGrath 1984; Salas,Weaver and Cannon- Bowers 2002; Steiner 1972; Unswarth and West,2000; Nemeth 2008). This supports the method that inputs, such as the team members composition and the types of the tasks being performed, affect the team work processes(e.g. communication), and this will, by the end, result have an effect on team work effectiveness.(Flin, O'Connor and Crichton Forthcoming, Nemeth 2008, p.117)

Nemeth (2008) used the model of inputs, processes and outputs: The leader's knowledge, skills, attitudes, leadership style and personality. The team members' outputs are their knowledge, skills, attitudes and personalities. The team's structure includes the size, norms, roles, status and cohesiveness. The processes include the group dynamics, the communication, coordination, cooperation and decision making while the tasks include the type of tasks, their significance, resources and environment; the outcomes include productivity, quality, errors and job satisfaction. As his model shows it is clear that the quality is affected by the previous factors because it comes as a result of them. The results of the study showed that some of the inputs had affected the team processes. They included the attitudes abilities, the combination of personalities within the team, and the degree to which the team leader could affect team members to complete their individual objectives in addition to the team's objectives. (Unsworth and West, 2000, Nemeth, 2008, p.119). Additionally, the structure of the team, size, norms of acceptable behavior, the roles of team members, and group cohesiveness of team members (Strees, 1988) are also the characteristics of the tasks that must be taken into consideration. (Kent and McGrath 1969, Nemeth, 2008). It is clear that the different team inputs are interdependent. Skills, abilities and personality of team members affect the structure of the team based on the kind of the task. Finally, the team performance affects the team inputs. Successful team performance leads to better team cohesiveness and more acceptable knowledge and skills. (Nemeth, 2008, p. 119)

Summary:

This chapter presented an overview of the major definitions related to quality improvement, history of quality improvement in health care and major quality theories. Relevent literature shows the factors affecting the quality of health care provided the standards of care in the ICU set by a number of nursing organizations because they present how the performance of the health care professionals can be assessed to ensure the quality of their outcome.

CHAPTER THREE

Conceptual Framework

Introduction:

This chapter discusses the conceptual framework of this study (Figure 3-1). The conceptual framework was developed by the researcher after reviewing relevant literature and studies. The development of the conceptual framework depended mostly on Donabedian's theory about quality. Donabedian (1968) developed a framework for measuring quality: structure, process, and outcomes. Structure is concerned with the type of organizational framework established, governance, medical staff, policies and procedures, type and mix of personnel, staffing methods, standards of various types, and so forth. Process refers to the numbers and types of actions taken in encounters between patients and providers of care, the rules and practices. Outcomes are the end results of the actions taken in terms of patients, personnel performance, and organizational performance in the light of established goals and standards (Allison and Renpenning, 1999,p. 177).

3.1 Conceptual definitions

The following are definitions of the main study concepts:

Quality of care: "The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge". (Medicare, 1990; Ashour, 1993, p.8)

Perception: "Involves receiving, organizing, and interpreting stimuli. The perceptions then influence behavior and form attitudes". (Tomey, 2004)

Health care professional: Any person who has completed a course of study and is skilled in a field of health. This includes a physician, dentist, nurse or allied health professional. Health care professionals are often licensed by a government agency or certified by a professional organization. (JACHO Standards for Hospitals, 2008, p. 234)

Leadership: the ability of individuals to influence other members toward the achievement of the team's goals (McLaughlin, et.al, 2006, p. 179).

Interpersonal relationship: In the contexts of sociology and of popular culture, the concept of interpersonal relationships involves social associations, connections, etc (http://dictionary.reference.com/search?q=qualification

Continuity of care: a continuous relationship between a patient and an identified health-care professional who is the sole source of care and information for the patient. However, as a patient's health-care needs over time can rarely be met by a single professional, multiprofessional pathways of continuity exist to achieve both quality of care and patient satisfaction (*Dictionary of Nursing, 2008*)

Satisfaction: The degree of fulfillment of basic needs as perceived by patient (Ware, et.al, 1983; M.Husseini, 2004, p. 10)

Standard: A predetermined level of excellence that serves as a guide for practice.

Standards have distinguishing characteristics; they are predetermined, established by an authority, and communicated to and accepted by the people affected by them. Because standards are used as measurement tools, they must be objective, measurable and achievable (Marquis and Huston 2006, p.3).

Accessibility to health care services: may be a process or structure variable. As a process, it entails the way a person accesses health care services,e.g. via telephone or home care visit. As a structure, it is concerned with availability of services that enhance patient's accessibility to care (Cohen and Cesta, 2001, p. 507).

Infection Control: refers to policies and procedures used to minimize the risk of spreading infections, especially in hospitals, and human or animal health care facilities. (http://medical.dictionary.the freedictionary.com)

Performance appraisal: Personnel evaluation method seeking the measurement of employees works effectiveness using objective criteria. Performance appraisal systems hope to achieve higher productivity outcomes by delineating how employees meet job specifications. A major challenge for performance appraisal system is to define performance standards while maintaining objectivity.
(http://www.answers.com/topic/performanceappraisal)

3.2 Operational definitions

Health care professionals: All nurses and doctors who are working in the ICUs.

Health care consumers: Any patient who is receiving medical care in the ICUs.

Professional qualification: The degree of knowledge and study the health care professional has.

Training in quality: Any training that the health care professional has about quality during their work period.

Perception of quality: The idea that a person has about the excellence level of care provided.

Governmental hospitals: Any hospital in the West Bank that is working under the supervision of the PMOH.

Physical structure: The shape of the ICU, how things are organized, and how this method of organization affects the health care consumers. (Items 7-17)

Infection control and safety measures: All the measures taken by health care professionals in the ICU to prevent causing any infections or complications to patients as a result of being in the unit. (Items 18-23)

Performance of health care professionals: All activities and steps of work the health care professionals act to provide patients with care. (Items 24-40)

Performance appraisal: Methods used to evaluate the performance of health care professionals in the ICU. (Items 41-45)

Interpersonal relationships: The type of relationship established between health care consumers and providers. (Items 46-49)

Protocols and standards: Written and documented working steps that will guide the health care professional's work. (Items (50-58)

Administration support: The attitudes of the directors to encourage their team members and improve their performance. (Items 59-62).

Accessibility: The ability to access all the health care services needed by the patient even if they weren't part of the ICU, like. X-ray department, laboratory department, etc .

Continuity of care: Patient's ability to continue relationship with health care professionals or services even after discharge from the unit. (Items 63-71 discuss accessibility and continuity)

Health care outcomes: The results of the health care provided. (Items 72-75).

General satisfaction: The level of acceptance of the quality level for the care provided. (Item 76).

Conceptual Framework

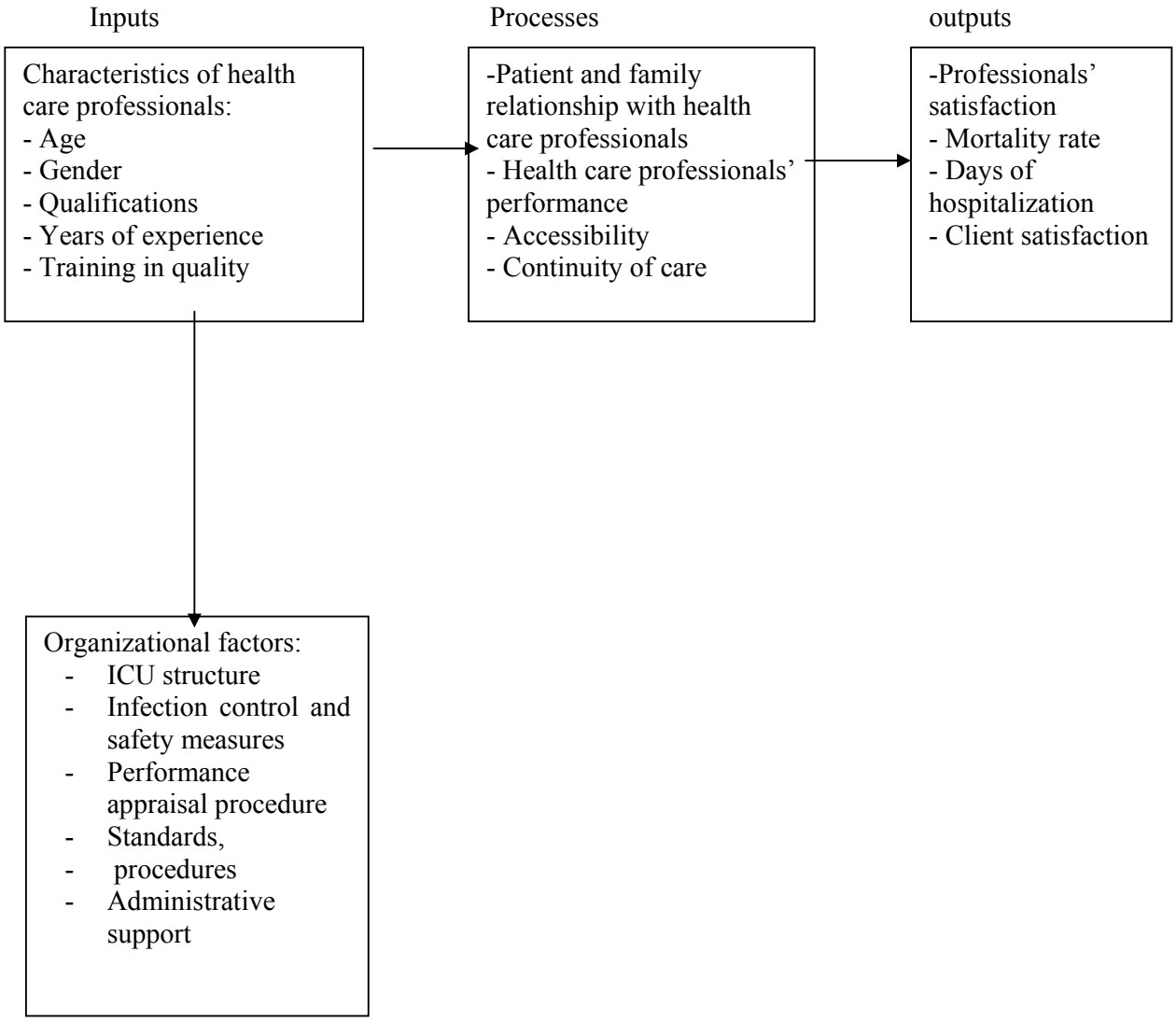


Figure 3-1: The conceptual framework of the research: Health care professional's perception of quality in the ICU

Summary

This chapter was devoted to the conceptual and operational definitions of the study variables. It also presented the conceptual framework developed by the researcher depending on Donabedian's theory about quality which includes inputs, processes and outputs.

CHAPTER FOUR

Methodology and Procedures

Introduction:

This chapter presents the study design used in this research, the study population and sample. The chapter also includes discussion of the instrument and its reliability and validity in addition to the study variables and statistical analysis. Moreover, this chapter describes the ethical considerations, study limitations and pilot testing.

4.1 Study design

The researcher reviewed relevant literature and published articles to identify the factors that may affect quality of healthcare in the ICUs. After identifying these factors, an assessment of the healthcare professional's perception regarding the quality of healthcare provided, was done. According to Polit and Pick (2003) literature review is "a critical summary of research on a topic of interest, often prepared to put a research problem in context "(p. 722).

A quantitative cross-sectional descriptive exploratory method was used to study the perception of healthcare professionals regarding the factors that affect the quality of healthcare in the ICUs. These ICUs provide healthcare services for Palestinian patients in the government hospitals in the West Bank.
According to Polit & Beck (2003), a cross- sectional design is suitable for describing the status of the phenomena under study or for describing relationships among phenomena at a fixed point of time. When a strong theoretical framework guides the analysis, a cross-sectional data can be most appropriate. One advantage of cross- sectional design is that it is easy to do. Another advantage in that it is economical, and this explains why the researcher chose to use this design for this study. (Polit & Beck, 2003, p: 166-167)

4.2 Population of the study

The target population of this study was the healthcare professionals (physicians and nurses) who were working in the ICUs in eight governmental hospitals for at least 6 months and more. The whole population was included in the study (147 healthcare professionals) as shown in table 4.1

Table 4.1: The number of health professionals in each unit according to hospital

Hospital name	Number of nurses	Number of resident doctors	Number of medical specialists	Total
Jenin hospital	10	2	3	15
Tulkarem hospital	6	4	3	13
AlWatani hospital	9	3	3	15
Rafeedia hospital	11	4	3	18
Ramallah hospital	16	5	5	26
Beit Jala hospital	12	7	3	22
Jericho hospital	10	3	2	15
Hebron hospital	12	6	5	23
Total	86	34	27	147

Source: Health Information Center (2008)

4.3 Study Instrument

A self- administered questionnaire was developed by the researchers after reviewing the literature about the factors that may affect the quality of healthcare. The questionnaire was developed depending on Alis' study (2008) and JACHO (2008) standards. The questionnaire was evaluated by the supervisor first and then by five researchers and experts in the ICU. The questionnaire was designed to be answered by healthcare professionals in the ICU.

According to Polit and Pick, a questionnaire is "a method of gathering self-report information from respondents through self-administration of questions in a written format." (p. 729) Quinn (2000) also described the questionnaire as "a sequence of questions that the respondent is required to answer"(p. 519).

The Five-point Lickert scale was used to answer the questionnaire. Lickert scale is a "composite measure of attitudes involving the summation of scores on a set of items that respondents rate for their degree of agreement or disagreement." (Polit and Pick, p.722). In this study, Lickert scale was used where the scores' interpretations were:

- To a very high limit = 5
- To a high limit = 4
- Neutral = 3
- To a low limit = 2

- To a very low limit = 1

The questionnaire consisted of 10 parts:

- Demographic data: age, gender, scientific qualification, hospital, experience and any special training courses. (1-6)

- Physical structure including space, equipment, tools and disposables. (Statements 7- 17)

- Safety and infection control measures in the ICU including standards, medical supplies, lab studies needed, isolation areas and special infection control committee. (Statements 18-23)

-Performance of healthcare professionals in the ICU including the admission steps, attending the medical rounds, medication administration and knowledge of dealing with any changes in the patients' situation. (Statements 24-40)

- Performance appraisal procedures. (Statement 41-45)

- Patient and family relationships with the healthcare professionals and the perception of the quality of healthcare provided. (Statements 46-49)

- Protocols and standards in the ICU. (Statements 50-58)

- The role of management support on the quality of care. (Statements 59-62)

- Accessibility and continuity of care. (Statements 63-71)

- The relationship between patients' satisfaction, professional's satisfaction, days of hospitalization and mortality rate and quality of care from the professionals' perception. (Statements 72-75)

- General satisfaction about the quality of health care in ICUs (76)

4.4 variables of the study

4.4.1 Independent variables

The independent variables of this study were age, gender, qualification, work environment, experience and the continuing education activities.

4.4.2. Dependent variables

1. Healthcare professionals' perception of quality of healthcare in the ICUs
   - Physical structure
   - Infection control and safety measures
   - Healthcare professionals' performance
   - Performance appraisal procedures
   - Patient and family relationships with the healthcare professionals
   - Protocols and standards
   - Management support
   - Accessibility and continuity of care

2. Perception of the healthcare professionals regarding healthcare professional's satisfaction, clients' satisfaction, mortality rate and occupancy rate.
3. General satisfaction of the healthcare professionals regarding quality of care.

4.5 Validity of the instrument

Validity is "the degree to which an instrument measures what it intended to measure." (Polit and Pick, 2003, p. 735). The content validity is "the degree to which the items in an instrument adequately represent the universe of content for the concept being measured." (Polit and Pick, 2003, p. 714).
To ensure its content validity, the questionnaire was reviewed and edited by five specialists at Al-Quds and Bethlehem universities, as well as two ICU experts (one is a nurse and the other is a specialist doctor). After receiving the experts' suggestions, some modifications were made.

4.6 Reliability of instrument

Reliability is "the degree of consistency or dependability with which an instrument measures the attribute it is designed to measure." (Polit and Pick,2003, p: 730)
To determine the reliability of the questionnaire, the researcher used Coefficient Cronpach alpha Test. Table 4.2 shows the reliability coefficients for the questionnaire.
Chronpach alpha is a widely used reliability index that estimates the internal consistency or hemogenicity of a measure composed of several subparts, also called coefficient alpha. (Polit and Pick, 2003, p. 715)

Table 4.2 Reliability coefficients of the questionnaire

Domain	No. of items	Reliability coefficient
Physical structure	11	0.87
Infection Control and safety measures	6	0.85
Performance of healthcare professionals	17	0.92
Performance appraisal procedures	5	0.85
Patient and family relationships with the health care professionals	4	0.76
Protocols and standards	9	0.84
Management support	4	0.84
Accessibility and continuity	9	0.80
Total score	**65**	**0.96**

As Table 4.2, shows all reliability coefficients values are within acceptable values.

4.7 Pilot study

An Arabic version of the questionnaire was produced by the researcher and a translator helped in ensuring the accuracy of translation by making back translation from Arabic into to English only minor modifications were made by the translator.

Five healthcare professionals in the ICU of Al-Meezan hospital in Hebron and 5 healthcare professionals in ICU of the Arab Society in Bethlehem were asked to complete the questionnaires. Permission from the administration of these two hospitals was taken verbally by contacting them and explaining the purpose of the study and how it would be conducted. This pilot sample was not included in the main study. Pilot testing is usually done to ensure clarity of the instrument and to see if any modification in the study methodology is needed. The data obtained was analyzed and unclear questions were dropped after consulting with the advisor.

A pilot study is a "small scale version, or trial run, done in preparation for a major study." (Polit and Pick, 2003, p: 727).

4.8 Ethical consideration

A special letter was sent to the PMOH from Al-Quds University to ask for a permission to conduct this study. Then a consent letter was received from PMOH. It was circulated among all the government hospitals which had ICUs to cooperate with the researcher. (See Appendix1 and 2)

The researcher took into consideration the relevant ethical principles when conducting her study. The participants had the opportunity to refuse to participate or to withdraw from the study at any time, and most importantly, the questionnaires returned anonymously. The researcher also rest assured the participants that the information collected would be used for research purposes only.

4.9 Study settings

This study was conducted in the ICUs in the Palestinian government hospitals: Tulkarem , Al-Watani , Rafeedia , Jenin , Ramallah , Jericho , Beit Jala and Hebron **.**

4.10 Period of the study

The data collection was conducted between June-July 2009.

4.11 Data collection

Following the pilot testing, the unclear questions were dropped and the final questionnaire form was prepared after consulting the advisor. An approval was received from the Palestinian Ministry of Health to conduct this study. The researcher obtained the data by administering the questionnaire to a population of 147 healthcare professionals. Participants were asked to fill a self- administered questionnaire as soon as they agreed to participate in the study. Quantitative data was collected from the healthcare professionals (physicians and nurses) in the ICUs.

4.12 Statistical analysis

The following statistical analyses were used:

1. Descriptive statistics: frequencies, means, standard deviations and percentage.
2. Independent T- test
3. One- Way ANOVA test.
4. Pearson Correlation Coefficient.

T- Test is a parametric statistical test for analysis of the differences between two means (Polit& Beck, 2003, p.734).

Pearson correlation coefficient is a widely used correlation coefficient designating the magnitude of relationship between two variables measured on at least an interval scale (Polit& Beck, 2003, p. 727)

ANOVA: Analysis of variance is a statistical procedure for testing mean differences among three or more groups by comparing variability between groups to variability within groups. (Polit & Beck, 2003, p. 711).

The researcher analyzed data by using the Statistical Package for Social Sciences program (SPSS version 10).

Limitations of the study.

- Limited availability of related local literature.

3.14 Summary

This chapter presented the research methodology of the study, the study design as well as the study setting and population. Pilot testing of the questionnaire was done and unclear questions were deleted. An explanation of the instrument development and content was presented. The chapter ended with a discussion methods of data collection and analysis.

Chapter Five

Findings of the Study

Introduction:

This study aimed to determine the health care professionals'(nurses and doctors in ICUs) perception about quality of health care in intensive units. Also the study aimed at examining the relationship between socio-demographic variables and health care professionals'(nurses and doctors in ICUs) perception of health care quality in intensive units.

5.1 Demographic characteristics of the study respondents:

All health care professionals (nurses, resident doctors, and specialist doctors) who work in the ICUs at the governmental hospitals were the target population for the study, a total of 147. The respondents of the study were 122 which form 82.9% of target population. Table 5-1 shows the respondents distribution in the different hospitals.

Table (5.1) Respondent distribution

Hospital	Frequency	Percentage
Jenin	12	9.8
Tulkarem	12	9.8
Al-wataney	14	11.5
Rafidia	9	7.4
Ramallah	25	20.5
Beit-Jala	18	14.8
Jericho	15	12.3
Hebron	17	13.9
Total	122	100%

The age of the respondents ranged from less than 25 to more than 40 years, a high percentage of them were in the group aged between 25-29 years (35.2%), age group less than 25 years represented 17.2%, age group between 30-40 were 22.1%, age group between 35-39 were 14.8% and 10.7% of the respondents were in the age group 40 years and more. Males represented 78.7% of the respondents and females were only 21.3%.

Thirty two percent of the respondents were doctors 21.3% resident doctors, only 4.1% were medical specialist doctors and 6.6% were specialist doctors in anesthesia, surgical or neurological fields. The nurses represented 68%, 27.8% of the nurses had diploma qualification, 32.8% had B.A degree and only 7.4 % higher diploma.

A high percentage of the respondents had less than two years experience with a percentage of 34.4, nurses with experience from 2 to less than 5 years experience represented 29.5%, group experienced from 5 to less than 8 years were 17.2 %, and 8 years and more experience group were 18.9 % of respondents.

Finally 84.4% of the respondents didn't have any continuous education activities and only 15.6% of them had the opportunity for such activities. Table 5-2 represents the respondents' characteristics.

Table (5.2) Respondents characteristics

Characteristics	group	frequency	percentage
Age	Less than 25	21	17.2
	25-29	43	35.2
	30-34	27	22.1
	35-39	18	14.8
	40 and more	13	10.7
	Total	122	100%
Gender	Male	96	78.7
	Female	26	21.3
	Total	122	100%
Qualification	Nursing Diploma	34	27.8
	B.A in Nursing	40	32.8
	Higher Diploma nurse	9	7.4
	B.A in Medicine	26	21.3
	Medical specialists	5	4.10
	Others	8	6.60
	Total	122	100%
Experience	Less than 2 years	42	34.4
	2 to less 5	36	29.5
	5 to less 8	21	17.2
	8 years and more	23	18.9
	Total	122	100%
Continuous	Yes	19	15.6
education	No	103	84.4
	Total	122	100%

5.2 Findings related to the first question of the study:

5.2.1 How do the health care professionals perceive quality of health care in their units?

To answer this question, the researcher calculated means, percentages and standard deviations of the questionnaire items. The researcher used the following scale, which had five levels, to evaluate the degree of agreement of the respondents regarding the use of each item.

- 90 % - 100 %: very high.
- 80 – 89 %: high
- 65 -79 %: medium
- 55 -64 %: low
- Below 55 %: very low.

Table (5.3) Perception of health care professionals on the ICUs physical structure:

No.	Statement	Mean	S.D	Percentage	Evaluation degree
1	The area for each patient in the unit is enough	2.48	1.18	49.6	Very low
2	There is a waiting area for family members	1.75	1.07	35	Very low
3	There is a special areas for health care professionals to rest in ICU	1.95	1.22	39	Very low
4	there is an oxygen, air and suction sources as needed beside each bed	3.12	1.47	62.4	Low
5	The ceiling and walls are covered with special isolating material that is possible to wash	2.58	1.39	51.6	Very low
6	The lighting in the ICU is enough	3.24	1.31	64.6	Low
7	The ventilation in the ICU is enough	2.96	1.26	59.2	Low
8	There is enough electrical sources to connect the machines	3.34	1.22	66.8	Medium
9	The unit is supplied with all the furniture needed	3.06	1.27	61.2	Low
10	the unit is supplied with all the needed equipment including monitors, suction, etc according to number of beds	2.94	1.29	58.8	Low
11	all the medical supplies including infusions, pulse oxy meters, medications, etc are available	3.25	1.3	65	Medium
Total score of physical structure		**2.79**	**0.84**	**55.8**	**Low**

Table (5.3) shows that the health care professional's perception about quality of health care in their units regarding the physical structure is low, with mean (2.79) and percentage (55.8%)

Table (5.4) Professionals perception on infection control measures in ICUs:

No.	Statement	Mean	S.D	Percentage	Evaluation degree
1	there is specific standards for infection control in the ICU	2.33	1.17	46.6	Very low
2	all medical supplies necessary for infection control including cleaning materials are available	2.69	1.21	53.8	Very low
3	all medical tests necessary to ensure that patient is free from any infectious diseases are done	2.66	1.23	53.2	Very low
4	patients who have any infectious diseases are isolated in special area in the ICU	1.7	1.08	34	Very low
5	special health care professionals are identified to work with patients who have any infectious diseases	1.9	1.17	38	Very low
6	There is a special infection control committee in the ICU	2.17	1.29	43.4	Very low
Total score of infection control and safety measures		**2.24**	**0.9**	**44.8**	**Very low**

Table (5.4) shows that the health care professional's perception about quality of health care in their units regarding infection control & safety measures is very low, with mean (2.24) and percentage (44.8%)

Table (5.5-a) professionals' perception on their performance in the ICUs:

No.	Statement	Mean	S.D	Percentage	Evaluation degree
1	health care professionals follow clear steps when admitting patient to the unit(e.g. vital signs, connecting patient to monitor, etc)	4.42	0.75	88.4	High
2	health care professionals are careful to attend the medical round together to follow the progress of the cases	4.12	0.95	82.4	High
3	The health care professional who admits medications is cautious to know its side effects	3.83	0.99	76.6	Medium
4	The nurse calls doctor immediately in case of any vital signs changes	4.37	0.85	87.4	High
5	The nurses are knowledgeable about all case details for patients in the ICU	4.02	0.91	80.4	High
6	Doctors must have all the details about any case in the ICU	3.65	1.02	63	Low
7	nurses take care of skin areas where they connect the monitor to prevent any infections	3.92	0,96	78.4	Medium
8	Doctors follow up the changes in the patient case carefully and with no delay	3.63	1.08	72.6	Medium
9	The nurses are knowledgeable about the protocols that should be followed when putting the patient on a ventilator	3.91	1.1	78.2	Medium
10	doctors are knowledgeable about the protocols that should be followed when putting the patient on a ventilator	3.71	1.02	74.2	Medium
11	nurses understand the meaning of blood gas	3.73	1.04	74.6	Medium
12	Nurses make decisions about how to deal with ventilator set up for patients on a ventilator	3.5	1.12	70	Medium
13	doctors understand the meaning of blood gas	3.84	0.95	76.8	Medium
14	Nurses make decisions about how to deal with ventilator set up for patients on a ventilator	3.75	0.96	75	Medium

Table (5.5- b)

15	nurses must ensure that all the connections and machines are working effectively	4.26	0.79	85.2	High
16	nurses are able to use all the machines in the ICU	3.84	0.93	76.8	Medium
17	Doctors are able to use all the machines in the ICU	3.28	1.03	65.6	Medium
Total score of performance of health care professionals		**3.87**	**0.63**	**77.4**	**Medium**

Table (5.5) shows that the health care professionals' perception about quality of health care in their units regarding performance of health care professionals is medium, with mean (3.87) and percentage (77.4%)

Table (5.6) Professionals perception on the performance appraisal in ICUs

No.	Statement	Mean	S.D	Percentage	Evaluation degree
1	There is a clear procedure for nurses performance appraisal in the unit	3.02	1.04	60.4	Low
2	There is a clear procedure for doctors performance appraisal in the unit	2.71	1.02	54.2	Very low
3	There is a specific person responsible about the quality of performance in the unit	2.8	1.28	56	Low
4	The quality of performance is observed by formal outer party	2.26	1.13	43.2	Very low
5	There is a special form to evaluate the patients satisfaction in the unit	1.9	1.11	38	Very low
Total score of Performance Appraisal		**2.54**	**0.88**	**50.8**	**Very low**

Table (5.6) shows that the health care professionals perception about quality performance appraisal procedure is very low, with mean (2.54) and percentage (50.8%).

Table (5.7) the professionals' perception on the relationship of health professionals with patients and their families

No.	Statement	Mean	S.D	Percentage	Evaluation degree
1	health care professionals give psychological support to the family to help in decreasing their stress	3.42	1.13	68.4	Medium
2	health care professionals give information related to the patient during hospitalization	3.56	1	71.2	Medium
3	health care professionals give enough information to the family during the hospitalization	3.57	0.94	71.4	Medium
4	health care professionals keep a professional relationship with the patients and accept their attitudes that result from stress	3.63	1.01	72.6	Medium
Total score of relationship of health professionals with patients and their families		**3.55**	**0.78**	**71**	**Medium**

Table (5.7) shows that the health care professionals perception about quality of health care in their units regarding relationship of health professionals with patients and their families is medium, with mean (3.55) and percentage (71.0%).

Table (5.8) Professionals perception on protocols and standards in the ICUs

No.	Statement	Mean	S.D	Percentage	Evaluation degree
1	There is specific steps to follow when admitting patient to the unit	4.1	0.83	82.0	High
2	There is clear lines of communication among health care professionals	3.9	0.85	78	Medium
3	There are clear procedures to treat family members and giving them information about their patient	3.45	1.05	69	Medium
4	there is clear procedure for making lab studies at the admission	3.75	0.93	75	Medium
5	there are clear standards to set the monitors alarms(higher and lower limits) according to the case	3.3	1.16	66	Medium
6	There is a strict protocol to follow for vital signs and giving the nursing care	3.78	0.97	75.6	Medium
7	There is a clear protocol to deal with patients on mechanical ventilation	3.58	1.13	71.6	Medium
8	There are special forms to document health care in the ICU	3.39	1.12	67.8	Medium
9	There is specific standards to follow for infection control in the ICU	2.95	1.21	59	Low
Total score of protocols and standards		**3.58**	**0.68**	**71.6**	**Medium**

Table (5.8) shows that the health care professionals' perception about quality of health care in their units regarding protocols and standards is medium, with mean (3.58) and percentage (71.6%).

Table (5.9) Professionals perception on management support in the ICUs

No.	Statement	Mean	S.D	Percentage	Evaluation degree
1	Administration interference in the unit help in improving professional performance	2.72	1.23	54.4	Very low
2	health care professionals can go back to the administration if they face any work problems	3.18	1.15	63.6	low
3	The administration provides with all the facilities and materials needed for work if asked	2.72	1.29	54.4	Very low
4	Regular meetings are done with the team members in the ICU	2.25	1.2	45	Very low
Total score of management support		**2.72**	**1**	**54.4**	**Very low**

Table (5.9) shows that the health care professionals' perception about quality of health care in their units regarding management support is very low, with mean (2.72) and percentage (54.4%).

Table (5.10) professionals' perception on accessibility & continuity to care in the ICUs

No.	Statement	Mean	S.D	Percentage	Evaluation degree
1	The patient admission process to the unit goes easily	3.42	1.21	68.4	Medium
2	Emergency patients are given the priority for evaluation and treatment	3.95	1.07	79.09	Medium
3	when patient is admitted to the unit he/she is given the needed information	3.61	1.06	72.2	Medium
4	the institution provides with protocols to ensure continuity of care	3.02	1.17	60.4	low
5	the patient is followed up during different treatment stages in the ICU	3.65	1.01	73	Medium
6	the patient is followed up after his discharge from the ICU	3.93	1.24	58.6	Low
7	A special health care professional is specified to be responsible for providing health care for each person in the ICU	2.47	1.19	49.4	Very low
8	the health care institution cooperates through health care professionals and other community institutions to ensure to ensure the accurate referrals	3.07	1.15	61.4	Low
9	a qualified health care professional is provided during any transportation of patients for X-rays,, scanning or other examinations	3.57	1.08	71.4	Medium
Total score of accessibility & continuity to care		3.3	0.71	66	**Medium**

Table (5.10) shows that the health care professionals' perception about quality of health care in their units regarding accessibility & continuity to care is low, with mean (3.30) and percentage (66.0%).

Table (5.11) Total score of health care professionals' perception of health care quality in their units

No.	Domain	Mean	S.D	Percentage	Evaluation degree
1	Physical structure	2.79	0.84	55.8	Low
2	Infection Control& safety measures	2.24	0.9	44.8	Very low
3	health care Professionals performance	3.78	0.64	75.6	Medium
4	Performance Appraisal	2.54	0.88	50.8	Very low
5	Relationship of health professionals with patients and their families	3.55	0,78	71	Medium
6	Protocols and standards	3.58	0.68	71.6	Medium
7	Management support	2.72	1	54.4	Very low
8	Accessibility & continuity of care	3.3	0.71	66	Medium
Total score		**3.22**	**0.56**	**64.4**	**Low**

Table (5.11) shows that the total score of health care professionals' perception about quality of health care in their units is low, with mean (3.22) and percentage (64.4%).

5.3 Results pertinent to the Hypotheses of the study:

The following tests were used for testing the study hypothesis:
- ANOVA and Scheffe Post Hoc test (hypothesis1, 3, 4, and 5)
- T-Test. (Hypothesis 2, 6)
- Pearson Correlation Coefficient. (Hypothesis 7)

5.3.1 Results pertinent to hypothesis one:

There are no significant differences at the level ($\alpha = 0.05$) among health care professionals perception of the quality of health care in ICUs related to age.

Table (5.12-a) health care professionals' perception of quality of health care in ICUs, according to age

Domain	Age	Frequency	Mean	S.D
Equipment and Facilities	Less than 29	64	2.85	0.90
	30-39	45	2.66	0.79
	40 and more	13	2.92	0.70
	Total	122	2.79	0.84
Infection Control	Less than 29	64	2.44	1.00
	30-39	45	2.01	0.71
	40 and more	13	2.09	0.84
	Total	122	2.24	0.90
health care professionals performance	Less than 29	64	4.01	0.57
	30-39	45	3.67	0.61
	40 and more	13	3.86	0.85
	Total	122	3.87	0.63
Performance appraisal	Less than 29	64	2.68	094
	30-39	45	2.32	080
	40 and more	13	2.62	079
	Total	122	2.54	088
Relationship of health professionals with patients and their families	Less than 29	64	3.70	076
	30-39	45	3.35	074
	40 and more	13	3.48	087
	Total	122	3.55	078
protocols and standards	Less than 29	64	3.72	063
	30-39	45	3.33	060
	40 and more	13	3.72	096
	Total	122	3.58	068
Management support	Less than 29	64	2.75	1.05
	30-39	45	2.64	093
	40 and more	13	2.85	1.02
	Total	122	2.72	1.00
Accessibility & continuity to care	Less than 29	64	3.46	0.71
	30-39	45	3.15	0.62
	40 and more	13	3.04	0.88
	Total	122	3.30	0.71
Total score	Less than 29	64	3.35	0.57
	30-39	45	3.04	0.46
	40 and more	13	3.22	0.66
	Total	122	3.22	0.56

Table (5.13) ANOVA Test for health care professionals' perception of health care quality in ICUs, according to age

Domain	Source of Variation	Sum of Squares	D.F	Mean Squares	F value	Sig.
Physical structure	Between groups	1.279	2	0.639	0.898	0.410
	Within groups	84.764	119	0.712		
	Total	86.043	121			
Infection Control	Between groups	5.224	2	2.612	3.336	0.039*
	Within groups	93.171	119	0.783		
	Total	98.395	121			
Health care professionals performance	Between groups	3.046	2	1.523	3.966	0.022*
	Within groups	45.698	119	0.384		
	Total	48.744	121			
Performance Appraisal	Between groups	3.331	2	1.666	2.173	0.118
	Within groups	91.220	119	0.767		
	Total	94.551	121			
Relationship of health professionals with patients and their families	Between groups	3.211	2	1.605	2.723	0.070
	Within groups	70.166	119	0.590		
	Total	73.377	121			
protocols and standards	Between groups	4.280	2	2.140	4.902	0.009*
	Within groups	51.941	119	0.436		
	Total	56.221	121			
Management support	Between groups	0.507	2	0.254	0.251	0.779
	Within groups	120.315	119	1.011		
	Total	120.822	121			
Accessibility& continuity to care	Between groups	3.572	2	1.786	3.675	0.028*
	Within groups	57.833	119	0.486		
	Total	61.405	121			
Total score	Between groups	2.596	2	1.298	4.403	0.014*
	Within groups	35.081	119	0.295		
	Total	37.677	121			

Statistically significant at ($\alpha = 0.05$)

Table (5.13) shows that there are significant statistical differences at the level ($\alpha = 0.05$) between the means of health care professionals' perception of infection control, performance of health care professionals, protocols and standards, accessibility and continuity of care and total score, attributed to age. Tables (5.14-5.18) show the results of using Scheffe Post Hoc Test.

Table (5.14) Scheffe Post Hoc, for comparing the means of infection control & safety measures attributed to age

Age	Less than 29	30-39	40 and more
Less than 29		0.4301*	0.3478
30-39			-0.0823
40 and more			

Statically significant at (α = 0.05)

Table (5.14) shows that the differences in health care professionals' perception of infection control and safety measures were between (less than 29) and (30-39), in favor of (less than 29) years old.

Table (5.15) Scheffe Post Hoc, for comparing the means performance of health care professionals attributed to age

Age	Less than 29	30-39	40 and more
Less than 29		0.3395*	0.1495
30-39			-0.1937
40 and more			

Statistically significant at (α = 0.05)

Table (5.15) shows that the differences in health care professionals' perception of their performance were between (less than 29) and (30-39), in favor of (less than 29) years old.

Table (5.16) Scheffe Post Hoc, for comparing the means of protocols and standards attributed to age

Age	Less than 29	30-39	40 and more
Less than 29		0.3889*	0.1737
30-39			-0.3846
40 and more			

Statistically significant at (α = 0.05)

Table (5.16) shows that the differences in health care professionals' perception of rules and standards were between (less than 29) and (30-39), in favor of (less than 29) years old.

Table (5.17) Scheffe Post Hoc, for comparing the means of accessibility & continuity to care attributed to age

Age	Less than 29	30-39	40 and more
Less than 29		0.3144*	0.4173
30-39			0.1029
40 and more			

Statistically significant at (α = 0.05)

Table (5.17) shows that the differences in health care professionals' perception of accessibility and continuity to care were between (less than 29) and (30-39), in favor of (less than 29) years old.

Table (5.18) Scheffe Post Hoc, for comparing the means of total score, attributed to age

Age	Less than 29	30-39	40 and more
Less than 29		0.3315*	0.1283
30-39			-0.1582
40 and more			

Statistically significant at ($\alpha = 0.05$)

Table (5.18) shows that the differences in health care professionals' perception of total score were between (less than 29) and (30-39), in favor of (less than 29) years old.

In summary, tables (5.14-5.18) show that the differences in health care professionals' perception of infection control, health care professionals performance, protocols and standards, accessibility and continuity of care and total score were between (less than 29) and (30-39), in favor of (less than 29) years old.

5.3.2. Results pertinent to hypothesis two:

There are no significant differences at the level ($\alpha = 0.05$) among health care professionals perception of health care quality in their units, attributed to gender.

Table (5.19) T-Test of health care professionals' perception of health care quality of in their units, according to gender

Domain	Male (N=96)		Female (N=26)		**T.**	**Sig.**
	Mean	Standard deviation	Mean	Standard deviation		
Physical structure	2.81	0.78	2.70	1.07	0.601	0.549
Infection Control & safety measures	2.22	0.84	2.33	1.10	0.541	0.590
health care professionals performance	3.84	0.63	3.97	0.66	0.916	0.361
Performance Appraisal	2.53	0.83	2.58	1.08	0.243	0.808
Relationship of health professionals with patients and their families	3.58	0.74	3.41	0.90	0.971	0.333
Protocols and standards	3.53	0.67	3.75	0.69	1.473	0.143
Management support	2.70	1.00	2.80	1.02	0.452	0.652
Accessibility & continuity to care	3.34	0.66	3.16	0.87	1.143	0.255
Total score	**3.22**	**0.51**	**3.25**	**0.71**	**0.241**	**0.810**

Statistically significant at ($\alpha = 0.05$). degree of freedom = 120

Table (5.19) shows that there are no significant differences at the level ($\alpha = 0.05$) between the means of health care professionals' perception of the components of quality of health care in their units, attributed to gender.

5.3.3. Results pertinent to hypothesis three:

There are no significant differences at the level ($\alpha = 0.05$) among health care professionals' perception of quality of health care in their units, attributed to qualifications.

Table (5.20-a) health care professionals' perception of quality of health care in their units, according to their qualifications

Domain	Qualification	Frequency	Mean	S.D
Physical structure	Intermediate Nursing Diploma	34	2.95	0.91
	B.A and higher diploma in Nursing	49	2.76	0.84
	B.A in Medicine, Medical specialists and others	39	2.68	0.79
	Total	122	2.79	0.84
Infection Control& safety measures	Intermediate Nursing Diploma	34	2.27	1.09
	B.A and higher diploma in Nursing	49	2.24	0.86
	B.A in Medicine, Medical specialists and others	39	2.21	0.80
	Total	122	2.24	0.90
health care professionals performance	Intermediate Nursing Diploma	34	4.02	0.64
	B.A and higher diploma in Nursing	49	3.82	0.65
	B.A in Medicine, Medical specialists and others	39	3.79	0.61
	Total	122	3.87	0.63
Performance Appraisal	Intermediate Nursing Diploma	34	2.76	0.92
	B.A and higher diploma in Nursing	49	2.39	0.85
	B.A in Medicine, Medical specialists and others	39	2.53	0.88
	Total	122	2.54	0.88
Relationship of health professionals with patients and their families	Intermediate Nursing Diploma	34	3.68	0.81
	B.A and higher diploma in Nursing	49	3.48	0.80
	B.A in Medicine, Medical specialists and others	39	3.51	0.73
	Total	122	3.55	0.78
protocols and standards	Intermediate Nursing Diploma	34	3.73	0.72
	B.A and higher diploma in Nursing	49	3.49	0.71
	B.A in Medicine, Medical specialists and others	39	3.55	0.60
	Total	122	3.58	0.68
Management support	Intermediate Nursing Diploma	34	2.71	1.09
	B.A and higher diploma in Nursing	49	2.62	0.98

(Table 5.20-b)

	B.A in Medicine, Medical specialists and others	39	2.85	0.95
	Total	122	2.72	1.00
Accessibility& continuity to care	Intermediate Nursing Diploma	34	3.39	0.80
	B.A and higher diploma in Nursing	49	3.20	0.71
	B.A in Medicine, Medical specialists and others	39	3.35	0.64
	Total	122	3.30	0.71
Total score	Intermediate Nursing Diploma	34	3.35	0.66
	B.A and higher diploma in Nursing	49	3.16	0.55
	B.A in Medicine, Medical specialists and others	39	3.19	0.47
	Total	122	3.22	0.56

Table (5.21) ANOVA Test for health care professionals' perception of quality of health care in their units, according to their qualifications

Domain	Source of Variation	Sum of Squares	D.F	Mean Squares	F value	Sig.
Physical structure	Between groups	1.336	2	0.668	0.938	0.394
	Within groups	84.708	119	0.712		
	Total	86.043	121			
Infection Control& safety measures	Between groups	.067	2	0.034	0.041	0.960
	Within groups	98.327	119	0.826		
	Total	98.395	121			
Health care professionals performance	Between groups	1.122	2	0.561	1.402	0.250
	Within groups	47.622	119	0.400		
	Total	48.744	121			
Performance Appraisal	Between groups	2.798	2	1.399	1.814	0.167
	Within groups	91.753	119	0.771		
	Total	94.551	121			
Relationship of health professionals with patients and their families	Between groups	0.838	2	0.419	0.687	0.505
	Within groups	72.539	119	0.610		
	Total	73.377	121			
protocols and standards	Between groups	1.141	2	0.570	1.232	0.295
	Within groups	55.080	119	0.463		
	Total	56.221	121			
Management support	Between groups	1.158	2	0.579	0.576	0.564
	Within groups	119.664	119	1.006		
	Total	120.822	121			
Accessibility& continuity to care	Between groups	0.877	2	0.438	0.862	0.425
	Within groups	60.528	119	0.509		
	Total	61.405	121			
Total score	Between groups	0.787	2	0.394	1.270	0.285
	Within groups	36.890	119	0.310		
	Total	37.677	121			

Statistically significant at ($\alpha = 0.05$)

Table (5.21) shows that there were no significant differences at the level ($\alpha = 0.05$) between the means of health care professionals' perception of quality of health care in their units, attributed to their qualifications.

5.3.4. Results pertinent to hypothesis four:

There are no significant differences at the level ($\alpha = 0.05$) among health care professionals perception of quality of health care in their units, attributed to working setting.

Table (5.22-a)Health care professionals perception of quality of health care in their units according to working setting

Domain	Hospital	Frequency	Mean	S.D
Physical structure	Jenin	12	3.16	0.7
	Tulkarem	12	3.91	0.55
	Al-wataney	14	2.62	0.6
	Rafidia	9	3.12	0.87
	Ramallah	25	2.47	0.87
	Beit-Jala	18	2.27	0.64
	Jericho	15	3.01	0.65
	Hebron	17	2.51	0.72
	Total	**122**	**2.79**	**0.84**
Infection Control& safety measures	Jenin	12	1.71	0.59
	Tulkarem	12	3.67	0.9
	Al-wataney	14	1.79	0.6
	Rafidia	9	2.31	0.73
	Ramallah	25	2.01	0.71
	Beit-Jala	18	1.69	0.63
	Jericho	15	2.67	0.81
	Hebron	17	2.5	0.67
	Total	**122**	**2.24**	**0.9**
Health care professionals Performance	Jenin	12	3.86	0.71
	Tulkarem	12	4.25	0.59
	Al-wataney	14	3.76	0.58
	Rafidia	9	3.97	0.76
	Ramallah	25	3.80	0.68
	Beit-Jala	18	4.04	0.56
	Jericho	15	3.67	0.59
	Hebron	17	3.73	0.59
	Total	**122**	**3.87**	**0.63**
Performance Appraisal	Jenin	12	2.1	0.68
	Tulkarem	12	3.53	0.73
	Al-wataney	14	2.24	0.87
	Rafidia	9	2.67	0.96
	Ramallah	25	2.71	0.87
	Beit-Jala	18	2.61	0.71
	Jericho	15	2.65	0.67
	Hebron	17	2.69	0.92
	Total	**122**	**2.54**	**0.88**
Relationship of health professionals with patients and their families	Jenin	12	3.88	0.9
	Tulkarem	12	3.75	0.71
	Al-wataney	14	3.5	0.65
	Rafidia	9	3.42	1.1
	Ramallah	25	3.33	0.76
	Beit-Jala	18	3.51	0.96
	Jericho	15	3.92	0.36
	Hebron	17	3.29	0.61

Table (5.22-b)

	Total	**122**	**3.55**	**0.78**
protocols and standards	Jenin	12	3.68	0.64
	Tulkarem	12	4.24	0.55
	Al-wataney	14	3.33	0.68
	Rafidia	9	3.72	0.79
	Ramallah	25	3.5	0.74
	Beit-Jala	18	3.54	0.64
	Jericho	15	3.69	0,37
	Hebron	17	3.23	0.63
	Total	**122**	**3.85**	**0.68**
Management support	Jenin	12	2.44	0.78
	Tulkarem	12	3.65	0.84
	Al-wataney	14	2.38	1.07
	Rafidia	9	3.31	0.79
	Ramallah	25	2.26	0.88
	Beit-Jala	18	2.64	0.77
	Jericho	15	3.42	0.72
	Hebron	17	2.38	1.13
	Total	**12**	**2.72**	**1**
Accessibility& continuity to care	Jenin	12	3.22	0.74
	Tulkarem	12	3.94	0.71
	Al-wataney	14	3.06	0.56
	Rafidia	9	3.22	0.73
	Ramallah	25	3.09	0.75
	Beit-Jala	18	3.33	0.59
	Jericho	15	3.71	0.35
	Hebron	17	3.04	0.77
	Total	**122**	**3.3**	**0.71**
Total score	Jenin	12	3.21	0.48
	Tulkarem	12	3.97	0.55
	Al-wataney	14	3.01	0.42
	Rafidia	9	3.36	0.68
	Ramallah	25	3.02	0.53
	Beit-Jala	18	3.13	0.42
	Jericho	15	3.39	0.42
	Hebron	17	3.06	0.51
	Total	**122**	**3.22**	**0.56**

Table (5.23) ANOVA Test for health care professionals' perception of health care quality their units, according to working setting

Domain	Source of Variation	Sum of Squares	D.F	Mean Squares	F value	Sig.
Physical structure	Between groups	27.467	7	3.924	7.637	0.0001*
	Within groups	58.576	114	0.514		
	Total	86.043	121			
Infection Control& safety measures	Between groups	41.354	7	5.908	11.807	0.0001*
	Within groups	57.040	114	0.500		
	Total	98.395	121			
health care professionals Performance	Between groups	3.594	7	0.513	1.296	0.258
	Within groups	45.150	114	0.396		
	Total	48.744	121			
Performance Appraisal	Between groups	19.691	7	2.813	4.284	0.0001*
	Within groups	74.860	114	0.657		
	Total	94.551	121			
Relationship of health professionals with patients and their families	Between groups	6.303	7	0.900	1.530	0.164
	Within groups	67.074	114	0.588		
	Total	73.377	121			
Protocols and standards	Between groups	8.836	7	1.262	3.037	0.006*
	Within groups	47.385	114	0.416		
	Total	56.221	121			
Management support	Between groups	30.623	7	4.375	5.529	0.0001*
	Within groups	90.200	114	0.791		
	Total	120.822	121			
Accessibility& continuity to care	Between groups	10.673	7	1.525	3.426	0.002*
	Within groups	50.732	114	0.445		
	Total	61.405	121			
Total score	Between groups	9.618	7	1.374	5.583	0.0001*
	Within groups	28.059	114	0.246		
	Total	37.677	121			

Statistically significant at ($\alpha = 0.05$)

Table (5.23) shows that there are significant differences at the level ($\alpha = 0.05$) between the means of health care professionals' perception of physical structure, infection control and safety measures, health care professionals performance, performance appraisal, protocols and standards, management support, accessibility and continuity of care and total score,

attributed to working setting. Tables (5.24-5.30) show the results of using Scheffe Post Hoc Test.

Table (5.24) Scheffe Post Hoc, for comparing the means of physical structure, attributed to working setting

Hospital	Jenin	Tulkarem	Al-wataney	Rafidia	Ramallah	Beit-Jala	Jericho	Hebron
Jenin		0.750*	0.536	0.038	0.686*	0.891*	0.153	0.646*
Tulkarem			1.286*	0.788*	1.436*	1.641*	0.903*	1.396*
Al-wataney				0.498	0.151	0.356	0.383	0.110
Rafidia					0.649*	0.854*	0.115	0.608*
Ramallah						0.205	0.53*	0.041
Beit-Jala							0.74*	0.248
Jericho								0.493
Hebron								

Statistically significant at ($\alpha = 0.05$)

Table (5.24) shows that the differences in the health care professionals' perception of physical structure between Tulkarem and Jenin, Al-Watani, Rafeedia, Ramallah, Beit Jala, Jericho and Hebron in favor of Tulkarem, and between Jenin and Ramallah, Beit Jala and Hebron in favor of Jenin, and between Rafeedia and Ramallah, Beit Jala and Hebron in favor of Rafeedia. Therefore, health care professionals who work in hospitals in the north perceive the physical structure of ICUs better than those who work in the middle and in the south.

Table (5.25) Scheffe Post Hoc, for comparing the means of infection control& safety measures, attributed to working setting

Hospital	Jenin	Tulkarem	Al-wataney	Rafidia	Ramallah	Beit-Jala	Jericho	Hebron
Jenin		1.96*	0.077	0.606	0.298	0.014	0.96*	0.79*
Tulkarem			1.88*	1.35*	1.66*	1.97*	1.00*	1.17*
Al-wataney				0.53	0.22	0.091	0.88*	0.71*
Rafidia					0.308	0.620*	0.35	0.19
Ramallah						0.31	0.66*	0.49*
Beit-Jala							0.97*	0.81*
Jericho								0.17
Hebron								

Statistically significant at ($\alpha = 0.05$)

Table (5.25) shows that there are differences in the perception of health care professionals of quality of infection control and safety measures between Hebron and Beit Jala, Al-Watani, Jenin, Ramallah in favor of Hebron, and between Jericho hospital and Jenin, Al-Watani, Ramallah and Beit Jala in favor of Jericho. This means that health care professionals who work in Hebron and Jericho perceive infection control and safety measures better than those who work in other hospitals.

Table (5.26) Scheffe Post Hoc, for comparing the means of performance appraisal, attributed to working setting

Hospital	Jenin	Tulkarem	Al-wataney	Rafidia	Ramallah	Beit-Jala	Jericho	Hebron
Jenin		1.43*	0.14	0.57	0.07	0.51	0.55	0.59
Tulkarem			1.29*	0.87*	1.36*	0.92*	0.88*	0.84*
Al-wataney				0.42	0.074	0.37	0.41	0.45
Rafidia					0.50	0.055	0.013	0.027
Ramallah						0.44	0.49	0.53*
.Beit-Jala							0.042	0.083
Jericho								0.041
Hebron								

Statistically significant at ($\alpha = 0.05$)

Table (5.26) shows that there are differences in the perception of health care professionals of performance appraisal between Tulkarem, Jenin, Al-watani, Rafeedia, Ramallah, Beit Jala, Jericho and Hebron in favor to Tulkarem.

Table (5.27) Scheffe Post Hoc, for comparing the means of protocols and standards, attributed to working setting

Hospital	Jenin	Tulkarem	Al-wataney	Rafidia	Ramallah	Beit-Jala	Jericho	Hebron
Jenin		0.56*	0.34	0.04	0.18	0.13	0.012	0.45
Tulkarem			0.91*	0.52	0.74*	0.70*	0.55*	1.01*
Al-wataney				0.38	0.16	0.21	0.35	0.10
Rafidia					0.22	0.17	0.027	0.49
Ramallah						0.045	0.19	0.27
.Beit-Jala							0.15	0.31
Jericho								0.46*
Hebron								

Statistically significant at ($\alpha = 0.05$)

Table (5.27) shows that the differences in health care professionals' perception of protocols and standards between Tulkarem and Al-watant, Rafeedia, Ramallah, Beit Jala, Jericho and Hebron in favor to Tulkarem.

Table (5.28) Scheffe Post Hoc, for comparing the means of management support, attributed to working setting

Hospital	Jenin	Tulkarem	Al-wataney	Rafidia	Ramallah	Beit-Jala	Jericho	Hebron
Jenin		1.21*	0.062	0.87*	0.18	-0.20	0.98*	0.055
Tulkarem			1.27*	0.34	1.38*	1.01*	0.23	1.26*
Al-wataney				0.93*	0.12	-0.26	1.04*	0.073
Rafidia					1.05*	0.67	0.11	0.92*
Ramallah						0.38	1.15*	0.12
.Beit-Jala							0.78*	0.26
Jericho								1.03*
Hebron								

Statistically significant at ($\alpha = 0.05$)

Table (5.28) shows that the differences in health care professionals' perception of management support between Tulkarem and Jenin, Al-watant, Ramallah, Beit Jala, and Hebron in favor to Tulkarem. There are also differences in health care professionals'

perceptions of management support between Rafeedia and Jenin, Al-Watani, Ramallah, Hebron in favor of Rafeedia. Between Jericho and Jenin, Alwatani, Ramallah, Beit Jala in favor of Jericho.

Table (5.29) Scheffe Post Hoc, for comparing the means of accessibility and continuity to care, attributed to working setting

Hospital	Jenin	Tulkarem	Al-wataney	Rafidia	Ramallah	Beit-Jala	Jericho	Hebron
Jenin		0.72*	0.16	0.04	0.13	0.11	0.49	0.18
Tulkarem			0.88*	0.72*	0.85*	0.61*	0.23	0.91*
Al-wataney				0.16	0.03	0.27	0.65*	0.024
Rafidia					0.13	0.11	0.49	0.18
Ramallah						0.24	0.62*	0.054
.Beit-Jala							0.38	0.29
Jericho								0.67*
Hebron								

Statistically significant at ($\alpha = 0.05$)

Table (5.29) shows that the differences in health care professionals' perception of accessibility and continuity of care between Tulkarem and Jenin, Al-watant, Rafeedia, Ramallah, Beit Jala, Jericho and Hebron in favor to Tulkarem hospital. And between Jericho and Alwatani and Beit Jala in favor of Jericho.

Table (5.30) Scheffe Post Hoc, for comparing the means of total score, attributed to working setting

Hospital	Jenin	Tulkarem	Al-wataney	Rafidia	Ramallah	Beit-Jala	Jericho	Hebron
Jenin		0.77*	0.19	-0.15	0.19	0.08	-0.19	0.15
Tulkarem			0.96*	0.61*	0.95*	0.85*	0.58*	0.92*
Al-wataney				-0.35	0.09	-0.12	0.38*	0.04
Rafidia					0.34	0.23	0.035	0.3
Ramallah						-0.11	0.38*	0.04
.Beit-Jala							-0.26	0.07
Jericho								0.34
Hebron								

Statistically significant at ($\alpha = 0.05$)

Table (5.30) shows that the differences in health care professionals' perception of the total scores between Tulkarem and Jenin, Al-watant, Rafeedia, Ramallah, Beit Jala, Jericho and Hebron in favor to Tulkarem hospital. And between Jericho and Ramallah and Alwatani in favor to Jericho.

5.3.5. Results pertinent to hypothesis five:

There are no significant differences at the level ($\alpha = 0.05$) among health care professionals' perception of quality of health care in their units, attributed to years of experience. The results of ANOVA are shown in tables (5.31) and (5.32).

Table (5.31) health care professional's perception of quality of health care in their units, according to Experience variable

Domain	Experience	Frequency	Mean	S.D
Physical structure	Less than 2 years	42	3.11	0.84
	2 to less 5	36	2.48	0.88
	5 to less 8	21	2.58	0.69
	8 years and more	23	2.86	0.72
	Total	**122**	**2.79**	**0.84**
Infection Control& safety measure	Less than 2 years	42	2.69	1.06
	2 to less 5	36	1.94	0.78
	5 to less 8	21	1.93	0.65
	8 years and more	23	2.17	0.65
	Total	**122**	**2.24**	**0.90**
health care professionals Performance	Less than 2 years	42	4.07	0.61
	2 to less 5	36	3.90	0.49
	5 to less 8	21	3.58	0.70
	8 years and more	23	3.71	0.72
	Total	**122**	**3.87**	**0.63**
Performance Appraisal	Less than 2 years	42	2.95	0.92
	2 to less 5	36	2.33	0.75
	5 to less 8	21	2.1	0.83
	8 years and more	23	2.5	0.79
	Total	**122**	**2.54**	**0.88**
Relationship of health professionals with patients and their families	Less than 2 years	42	3,80	0.81
	2 to less 5	36	3.51	0.67
	5 to less 8	21	3.46	0.86
	8 years and more	23	3.22	0.69
	Total	**122**	**3.55**	**0.78**
protocols and standards	Less than 2 years	42	3.93	0.62
	2 to less 5	36	3.52	0.46
	5 to less 8	21	3.13	0.72
	8 years and more	23	3.43	0.75
	Total	**122**	**3.58**	**0.68**
Management support	Less than 2 years	42	3.11	1.04
	2 to less 5	36	2.38	0.97
	5 to less 8	21	2.52	0.76
	8 years and more	23	2.72	0.98
	Total	**122**	**2.72**	**1**
Accessibility& continuity to care	Less than 2 years	42	3.65	0.70
	2 to less 5	36	3.19	0.59
	5 to less 8	21	2.89	0.78
	8 years and more	23	3.21	0.60
	Total	**122**	**3.30**	**o.71**
Total score	Less than 2 years	42	3.54	0.57
	2 to less 5	36	3.09	0.42
	5 to less 8	21	2.92	0.52
	8 years and more	23	3.13	0.50
	Total	**122**	**3.22**	**0.56**

Table (5.32) ANOVA Test for health care professional's perception of quality of health care in their units, according to experience variable

Domain	Source of Variation	Sum of Squares	D.F	Mean Squares	F value	Sig.
Physical structure	Between groups	8.770	3	2.923	4.464	0.005*
	Within groups	77.273	118	0.655		
	Total	86.043	121			
Infection Control& safety measures	Between groups	13.979	3	4.660	6.513	0.0001*
	Within groups	84.416	118	0.715		
	Total	98.395	121			
health care professionals Performance	Between groups	4.119	3	1.373	3.631	0.015*
	Within groups	44.625	118	0.378		
	Total	48.744	121			
Performance Appraisal	Between groups	12.687	3	4.229	6.096	0.001*
	Within groups	81.864	118	0.694		
	Total	94.551	121			
Relationship of health professionals with patients and their families	Between groups	5.338	3	1.779	3.086	0.030*
	Within groups	68.039	118	0.577		
	Total	73.377	121			
protocols and standards	Between groups	10.104	3	3.368	8.617	0.0001*
	Within groups	46.117	118	0.391		
	Total	56.221	121			
Management support	Between groups	11.217	3	3.739	4.026	0.009*
	Within groups	109.605	118	0.929		
	Total	120.822	121			
Accessibility & continuity to care	Between groups	9.265	3	3.088	6.990	0.0001*
	Within groups	52.139	118	0.442		
	Total	61.405	121			
Total score	Between groups	7.101	3	2.367	9.134	0.0001*
	Within groups	30.577	118	0.259		
	Total	37.677	121			

Statistically significant at ($\alpha = 0.05$)

Table (5.32) shows that there are significant differences at the level ($\alpha = 0.05$) between the means of health care professionals' perception of physical structure, infection control& safety measures, health care professionals performance, performance appraisal, relationship of health professionals with patients and their families, protocols and standards,

management support, accessibility and continuity of care and total score, attributed to experience. Tables (5.33-5.41) show the results of using Scheffe Post Hoc Test.

Table (5.33) Scheffe Post Hoc, for comparing the means of physical structure, attributed to years of experience

Experience	Less than 2 years	2 to less 5	5 to less 8	8 years and more
Less than 2 years		0.63*	0.53*	0.25
2 to less 5			0.10	0.38
5 to less 8				0.27
8 years and more				

Statistically significant at ($\alpha = 0.05$)

Table (5.33) shows that the differences in health care professionals perception of physical structure between less than 2 years, and 2 to less than 5 years, 5 to less than 8 years, and in favor to less than 2 years group.

Table (5.34) Scheffe Post Hoc, for comparing the means of infection control& safety measures, attributed to years of experience

Experience	Less than 2 years	2 to less 5	5 to less 8	8 years and more
Less than 2 years		0.75*	0.77*	0.53*
2 to less 5			0.016	0.22
5 to less 8				0.24
8 years and more				

Statistically significant at ($\alpha = 0.05$)

Table (5.34) shows that the differences in health care professionals perception of infection control and safety measures between less than 2 years, 2 to less than 5 years, 5 to less than 8 years, and 8 and more in favor to less than 2 years group.

Table (5.35) Scheffe Post Hoc, for comparing the means of health care professional's performance, attributed to years of experience

Experience	Less than 2 years	2 to less 5	5 to less 8	8 years and more
Less than 2 years		0.17	0.49*	0.37*
2 to less 5			0.31	0.19
5 to less 8				0.13-
8 years and more				

Statistically significant at ($\alpha = 0.05$)

Table (5.35) shows that the differences in health care professionals' perception of their performance between less than 2 years, 2 to less than 5 years, 5 to 8 years, and 8 and more group in favor to less than 2 years group.

Table (5.36) Post Hoc, for comparing the means of performance appraisal, attributed to years of experience

Experience	Less than 2 years	2 to less 5	5 to less 8	8 years and more
Less than 2 years		0.62*	0.85*	0.45*
2 to less 5			0.23	-0.17
5 to less 8				-0.40
8 years and more				

Statistically significant at ($\alpha = 0.05$)

Table (5.36) shows that the differences in health care professionals' perception of performance appraisal between less than 2 years, 2 to less than 5 years, 5 to less than 8 years, and 8 and more in favor to less than 2 years group.

Table (5.37) Scheffe Post Hoc, for comparing the means of relationship of health professionals with patients and their families', attributed to years of experience

Experience	Less than 2 years	2 to less 5	5 to less 8	8 years and more
Less than 2 years		0.29	0.33	0.58*
2 to less 5			0.042	0.29
5 to less 8				0.25
8 years and more				

* Statistically significant at ($\alpha = 0.05$)

Table (5.37) shows that the differences in health care professionals' perception of the relationship of health professionals with patients and their families, between Less than 2 years and 8 years and more, in favor to less than 2 years.

Table (5.38) Scheffe Post Hoc, for comparing the means of protocols and standards, attributed to Experience variable

Experience	Less than 2 years	2 to less 5	5 to less 8	8 years and more
Less than 2 years		0.42*	0.80*	0.50*
2 to less 5			0.38*	0.080
5 to less 8				0.30
8 years and more				

Statistically significant at ($\alpha = 0.05$)

Table (5.38) shows that the differences in health care professionals' perception of rules and standards between less than 2 years, 2 to less than 5 years, 5 to 8 years, and 8 and more in favor to less than 2 years group.

Table (5.39) Scheffe Post Hoc, for comparing the means of management support, attributed to years of experience

Experience	Less than 2 years	2 to less 5	5 to less 8	8 years and more
Less than 2 years		0.73*	0.58*	0.39
2 to less 5			0.14	0.33
5 to less 8				0.19
8 years and more				

Statistically significant at ($\alpha = 0.05$)

Table (5.39) shows that the differences in health care professionals' perception of management support between less than 2 years, 2 to less than 5 years, 5 to 8 years, and 8 and more in favor to less than 2 years.

Table (5.40) Scheffe Post Hoc, for comparing the means of accessibility & continuity to care, attributed to years of experience

Experience	Less than 2 years	2 to less 5	5 to less 8	8 years and more
Less than 2 years		0.46*	0.76*	0.44*
2 to less 5			0.30	0.024
5 to less 8				0.32
8 years and more				

Statistically significant at ($\alpha = 0.05$)

Table (5.40) shows that the differences in health care professionals' perception of accessibility and continuity of care between less than 2 years, 2 to less than 5 years, 5to 8 years, and 8 and more in favor to less than 2 years group.

Table (5.41) Scheffe Post Hoc, for comparing the means of total score, attributed to years of experience

Experience	Less than 2 years	2 to less 5	5 to less 8	8 years and more
Less than 2 years		0.45*	0.63*	0.41*
2 to less 5			0.17	-0.04
5 to less 8				-0.22
8 years and more				

Statistically significant at ($\alpha = 0.05$)

Table (5.41) shows that the differences in health care professionals' perception of total scores between less than 2 years, 2 to less than 5 years, 5 to 8 years, and 8 and more in favor to less than 2 years group.

5.3.6 Results pertinent to hypothesis six:

There are no significant differences at the level ($\alpha = 0.05$) among health care professionals perception of quality of health care in their units, attributed to continuing education activities.

The results of T-Test analysis are shown in table (5.42).

Table (5.42) T-Test of health care professionals' perception of quality of health care in their units, according to continuing education activities variable

Domain	Yes (N=19)		No (N=103)		T.	Sig.
	Mean	Standard deviation	Mean	Standard deviation		
Physical structure	3.05	0.84	2.74	0.84	1.471	0.144
Infection Control& safety measures	2.53	0.90	2.19	0.90	1.505	0.135
health care professionals performance	3.89	0.81	3.87	0.60	0.120	0.905
Performance Appraisal	2.65	0.76	2.52	0.91	0.606	0.545
Relationship of health professionals with patients and their families	3.62	0.69	3.53	0.80	0.455	0.657
Protocols and standards	3.77	0.82	3.54	0.65	1.311	0.193
Management support	2.95	0.92	2.68	1.01	1.084	0.281
Accessibility & continuity to care	3.47	0.75	3.27	0.70	1.161	0.248
Total score	**3.38**	**0.58**	**3.20**	**0.55**	**1.295**	**0.198**

Statically significant at ($\alpha = 0.05$). degree of freedom = 120

Table (5.42) shows that there are no significant differences at the level ($\alpha = 0.05$) between the means of health care professionals' perception of quality of health care in their units, attributed to continuing education activities variable.

5.3.7. Results pertinent to hypothesis seven:

There are no significant relations at the level ($\alpha = 0.01$) between Quality of care and healthcare professional satisfaction, client satisfaction, mortality rate, and length of stay.

Table (5.43) Pearson Correlation Coefficient between Quality of care and Healthcare professionals' satisfaction, Clients satisfaction, Mortality rate and length of stay

	Healthcare professional satisfaction	Client satisfaction	Mortality rate	Length of stay
Quality of care	0.427**	0.503**	-0.015	0.140

** Statically significant at ($\alpha = 0.01$)

Table (5.43) shows that there are relationships between healthcare professional satisfaction, client satisfaction and quality of care as shown in table (5.43). There are no significant relations at the level ($\alpha = 0.01$) between quality of care and Mortality rate, quality of care and length of stay as shown in table (5.43).

Summary:

This chapter presented the analysis of the study findings. The health care professionals' perception of quality of health care in the ICUs regarding physical structure, infection control and safety measures, performance appraisal, management support, and accessibility and continuity of care was low. At the same time, their perception regarding health care professionals' performance, their relationships with the patients and their families and the rules and protocols was medium.

The study discussed some demographic characteristics of the health care professionals and their perception regarding the quality of health care.

Finally this chapter presented correlation between the quality of health care and some selected outcomes.

CHAPTER Six

Discussion of Findings

Introduction

This chapter presents the interpretation of the study findings in the light of previously conducted studies and literature. Discussion of the respondents' demographic characteristics and healthcare professionals' perceptions of some selected healthcare quality components are also presented in this chapter.

6.1 Characteristics of healthcare professionals in the ICUs at the government hospitals in the West Bank

The study respondents were 122 healthcare professionals or 83% of the total study population. The respondents were working in eight government ICUs in the West Bank. The majority of healthcare professionals (57.3%) aged 25-34 years, and the rest of them were distributed among different age groups. Only 10% of the respondents aged more than 40 years old due to the hard work and high stress level in the ICUs. It seems that when healthcare professionals get older, they prefer to have less stressful jobs. Further, after having longer experience healthcare professionals may have the chance to be promoted to management positions in other departments.

The majority of the respondents (78.6%) are males (96 professionals) and only 21% of them are females. Although the nursing profession is considered a female job, the percentage of male nurses in Palestine is high unlike the western countries. Moreover, the study respondents were doctors and nurses and medicine is mostly a male dominated profession in our culture, because of that the percentage of males in the study sample was higher than females. Moreover, the female nurses usually leave their jobs earlier to assume their social roles and avoid the night shifts duties.

Regarding qualifications, the nurses represented 68% of the respondents. The patient-nurse ratio in the ICU must be 1:1. This explains the higher number of nurses in the study sample. At the same time, the majority of the nurse respondents (32.8) % had a B.Sc. degree in nursing due to the need for higher level of education and skills to better manage the sophisticated and advanced technological ICU environment. As the PMOH seeks to improve the level of quality care provided, it is interested in hiring B.Sc. nurses in the ICUs. Furr, Binkley, McCurren, & Currico (2004) stressed that the level of education acts as a facilitating factor in improving the quality level of care provided.

Sixty three percent of the respondents had less than 5 years of experience. This can be explained by the high level of burnout among the healthcare professionals as a result of overwork load and stress level in the ICUs.

Eighty four percent of the healthcare professionals did not attend any continuing education activities in the ICUs. This can be attributed to the poor management of human resources in the ICUs, and poor distribution of training opportunities among team members, this result is an important issue that should be considered by the managers either at the PMOH level or even at the unit level because most of the literature studied showed the importance of continuous education in improving the quality of care provided like the CACCN or JCI.

The majority of the study respondents (20.5%) were from Ramallah hospital this can be attributed to large number of professionals (26), although Al-Watani hospital in Nablus had more ICU beds and average monthly admissions. One interpretation for this is that Ramallah is referral canter for all West Bank, so the PMOH gives it higher importance and care thus increasing the number of healthcare professionals.

6.2 Health care professionals' perception of the ICUs' physical structure

The physical structure of the ICU is an important component which helps in improving the quality of healthcare provided. The physical structure of an ICU includes equipment, facilities, buildings and special areas, lighting and so on. It was found that the healthcare professionals' perception of the quality of healthcare in their units regarding the physical structure was low (55.8%) (Table5.3). They perceived the quality of the unit's physical structure low because the space for each patient and for the healthcare professionals is inadequate. Moreover, family waiting area is inavailable in most hospitals, the supplies including equipment, and furniture were very poor. According to Furr, Binkley, McCurren, & Currico (2004), supplies and equipment provided by the hospital are an input for better performance.

According to the Intensive Care Society in the UK (1997), clear standards related to buildings and some items of equipment are set. Vinitwankhun, (1998) found that structural design; environment and technology were important factors that enhanced organizational effectiveness.

6.3 Health care professionals' perception of infection control and patient safety measures in the ICUs

This study showed that the healthcare professionals' perception of the quality of healthcare regarding infection control and safety measures was very low (44.8%) (Table5.4). Although the PMOH has worked on the infection control issue several times, there are still no clear infection control standards at the government hospitals and each unit management decides the steps of infection control based on the professional's opinion and knowledge. Medical supplies needed for cleaning are not always available, no infection control committee or if present is not functioning well. Moreover, not all the needed laboratory tests could be done, and not all the patients who need isolation could be isolated. The results of this research can be explained by the unavailability of the needed materials and equipment, the high work load and the need to teach the importance of infection control issue.

Sarasota Memorial hospitals' standards of care in ICUs discussed the importance of infection control measures as the first safety measure. The Intensive Care Society also stressed on patients' safety as an important standard.

6.4 Healthcare professionals' perception of their performance in the ICUs

Table (5.5) shows the healthcare professionals' perception of the quality of their performance in ICUs as moderate (77.4%). The healthcare professionals' perception on their performance of following clear steps at admission and correct steps in analyzing the patients' condition was high. They collaborate and cooperate with each other to diagnose and treat the patients. However, the health care professionals perception on some procedures like understanding the interpretations of blood gas exams results was moderate, the ability to use machines and equipments used in the ICUs moderate, so these results are annoying because health care professionals should be experts in these procedures and should provide patients with these procedures perfectly to ensure good quality of health care.

Lin, Chaboyer, and Wallis, (2008) found that teams made less mistakes when each team member understood his/her own role and responsibility. According to ICU the Intensive Care Society (1997), the ICU requirements include a 24- hour on-site cover by medical staff in ICU, with a known consultant whenever needed, an ability to support common organ system failures, an acceptable level of case load to maintain skills and expertise. The standard of the Canadian Association of Critical Care Nurses (CACCN) stresses the importance of qualified personnel, critical care committee, and team approach. It also stresses the importance of special criteria for data collection and documentation, analysis of data by ICU nurses, interventions based upon the actual and potential nursing diagnosis, criteria for implementation of nursing care plan. Moreover, the evaluation criteria for care outcome must be clear to achieve a better performance (CACCN).

6.5 Health care professionals' perception of performance appraisal procedures used in the ICUs

Table 5.6 shows that the healthcare professionals' perception of quality of performance appraisal procedure was very low (50.8%). It seems that there was no clear procedure to evaluate doctors and nurses performance, no clear personnel in charge of the quality of performance in the ICUs, no special form to assess patient's satisfaction. Fort & Voltero (2004) found that the performance feedback was one of the five key factors believed to influence performance outcome. According to Donabedian's theory, which discusses the evaluation of quality of care depending on inputs, processes and outputs, performance appraisal is one of the processes that are necessary to assess the quality of the care provided.

6.6 Health care professionals' perception of the quality of their relationship with the patients and their families

Table 5.7 shows, the healthcare professionals' relationship with patients and their families were medium. Caring for others, supporting them, and approaching them with good attitude are major values which our Palestinian society has. These values are also presented in the professionals' context, but at the same time, healthcare professionals have heavy work load which prevents them from giving the psychological and emotional support and information to both the patients and their families. The lack of equipment and shortage of

professionals also put healthcare professional in stress, preventing them from keeping better relations with their patients.

The American Association of Critical Nursing (AACN) standards, for establishing and sustaining healthy environments, stress skilled communication as an important factor to achieve better care. Sarasota Memorial Hospital standards have emphasized the importance of education to the patient and his family to improve their knowledge, skills and behaviors according to their health needs. The standards set by CACCN included a section on the professional relationship with patients and their families.

Olsen, et.al (2009) pointed out that visits to the ICUs and information to families are important to both families and patients. In their study it was found that the patients wanted some restriction on visitors' presence and preferred visitors closer to them.
Gruenberg et.al, (2006) studied the social factors affecting the length of stay and outcome of care in the ICU. They found that the lack of quality communication between patient's families and healthcare professionals led to stress and unnecessary prolonged ICU stay.

6.7 Healthcare professionals' perception of protocols and standards in their units

Table 5.8 shows the healthcare professionals' perception of quality of healthcare in the ICUs, regarding the protocols and standards, was moderate. The presence of specific protocols, standards and procedures was moderate and depended on each department administration. There were no national standards set by the Palestinian MOH to be used in the Government ICUs.

According to the Intensive Care Society (1997), the ICU must have a clear operational policy; pertaining to processes standards the CACCN has included special criteria for implementation of nursing care.

Lin, et.al (2008) examined the organizational, individual and team work factors contributing to the ICUs' discharge processes. The guidelines and policies, as organizational factors, were found to be important, and if they were not available they would lead to poor decision making and regression in results which means that the quality of care would decrease.

6.8 Healthcare professionals' perception of management support

Table 5.9 reveals that the healthcare professionals' perception of the quality of management support in their units was very low. This could be attributed by the centralized management system used in the Palestinian MOH, and the decision making at the top level. Therefore, to provide health care facilities, set protocols, and work on performance improvement, middle line managers need to return to the top management in the MOH. This may not be practical especially when there is a need for immediate change, so this may lead to the decrease of the quality of management support.

Deming (1950) believed that quality is a management role because the employees work in the system, but the management deals with the system. (Mclaughlin& Kaluzny, 2006, p.24)

The Intensive Care Society (1997)s' standards have highlighted the importance of a 24-hour on-site cover by medical staff with known consultants (medical or administrative) to improve the quality level of care provided.

Nurse leaders have to fully support a healthy work environment that ensures excellent professional nursing practice and optimal care for patients and their families. (McCauley, AACN, 2004-2005)

Mallick and Lambrinos (1995) investigated the importance of greater involvement by medical directors in the day-to-day management of the ICU which decreases the average occupancy rate in the ICUs and the possibility of patients' misallocation in the units.

6.9 Health care professionals' perception of accessibility and continuity of care

Table 5.10 shows that the healthcare professionals' perception of quality of healthcare in their units, regarding accessibility and continuity of care, was medium.
Healthcare professionals believed that the admission process to the unit was moderately easy. The emergency patients were moderately given the priority for evaluation and treatment. The protocols to ensure continuity of care were not clearly present. There was a moderate level of follow up in different stages of treatment in the unit, but there was no follow up after discharge. There was also low coordination and cooperation among healthcare professionals to ensure the accurate referrals.

According to Hunt (2008), continuum of care is an important standard used in Sarasota Memorial Hospital.

Gurses & Carayon (2008) explored performance obstacles of intensive care nurses and found that obstacles related to intra-hospital transport were found to affect the quality of healthcare provided.

Donabedian's theory for measuring quality through structure, process and outputs also discussed the importance of accessibility and continuity of care. (Allison & Renpenning, 1999)

6.10 Results pertinent to hypotheses of the study

6.10.1 Age and health care professionals' perception of quality

Table 5.12-5.18 show that health care professionals who were less than 25 years of age, perceived the quality of physical structure, infection control and safety measures, performance of healthcare professionals, performance appraisal procedures, patient and family relationships with the healthcare professionals, protocols and standards, management support and accessibility and continuity of care as higher than other groups. This might be attributed to the short period of experience and exposure, the inability to give professional judgments, and the need for further training and education regarding the ICUs and quality care.

Ali (2007) found no relationship between age of nurses and their performance in neonatal nursing, but no studies were available on the association between age and perception of quality of health care services in ICUs.

6.10.2Gender and health care professionals' perception of quality

Table 5.19 shows no significant difference between healthcare professionals' perception of the quality of healthcare in their units attributed to gender. This could be explained by the following:

- Males and females have the same professional roles, and so they may have the same expectations about the quality of care provided.
- The number of males in the sample was 96 and the number of females was 26, so given the sample size, differences in opinions may not be clearly identified.

6.10.3 Qualification and health care professionals' perception of quality

Table 5.20 and 5.21 show that the difference in qualification had no effect on the perception of health care professionals toward quality in their units. This result might be attributed to:

- The healthcare professionals are working in the same units and they have to share the same problems and difficulties.
- The healthcare professionals may have the same definition of quality although they have different qualifications.

Shahidzadeh, et.al (2006) found that the low level of education had an effect on the quality of care provided.

According to Deming, program used for quality improvement, encouragement of education and self-improvement for everyone of the health care team were recommended to improve the quality of services. (Mclaughlin& Kaluzny, 2006, p.24)

Fort & Voltero (2004) identified knowledge and skills as important factors that influenced performance outcomes.

6.10.4 Work setting and the health care professionals' perception of quality

Table 5.22 and 5.23 show that there were differences in the professionals' perception of the quality of healthcare regarding physical structure, infection control and safety measures, performance appraisal, protocols and standards, management support, and accessibility and continuity of care attributed to the work setting.

Healthcare professionals who worked in hospitals in the north (Tulkarem, Jenin, Rafeedia) perceived the physical structure of ICUs better than those who worked in the center and in the south (Table 5.24). This could be due to old buildings of the hospitals in the center and the south. Although the PMOH is working on improving the quality of health services in its hospitals and develop different departments in a variety of hospitals, the physical structure of the ICUs still need improvements.

The healthcare professionals who worked in Hebron and Jericho perceived infection control and safety measures better than those who worked in other hospitals.(Table 5.25).

Regarding Jericho hospital, the number of ICU beds was limited to (2 beds) (Table 1.1). Therefore, it is easier to follow infection control measures in a small unit. Pertaining to Hebron hospital, when comparing the number of ICU beds with the average admissions in relation to the other hospitals, it had low number although Tulkarem was even less, but this can be a factor that enhances the ability to follow better infection control measures.

There were differences in the perception of health care professionals regarding performance appraisal between Tulkarem, Jenin, Al-Watani, Rafeedia, Ramallah, Beit Jala, Jericho and Hebron in favor of Tulkarem (Table 5.26). The number of team members in Tulkarem hospital was the smallest among all hospitals, this could be associated with less conflicts and more acceptance among team members. It may also enhance better cohesiveness.

Table 5.27 shows that the differences in healthcare professionals' perception of protocols and standards between Tulkarem and Al-Watani, Rafeedia, Ramallah, Beit Jala, Jericho and Hebron were in favor of Tulkarem, this also may be explained by the smallest team and so the protocols and standards are easier to communicate and understand, and also to practice and implement.

Table 5.28 shows that the differences in healthcare professionals' perception of management support between Tulkarem and Jenin, Al-Watani, Ramallah, Beit Jala, and Hebron were in favor of Tulkarem. There were also differences in healthcare professionals' perceptions of management support between Rafeedia and Jenin, Al-Watani, Ramallah, Hebron in favor of Rafeedia and between Jericho and Jenin, Al-watani, Ramallah, Beit Jala in favor of Jericho.

Table 5.29 shows that the differences in healthcare professionals' perception of accessibility and continuity of care between Tulkarem, Jenin, Al-watant, Rafeedia, Ramallah, Beit Jala, Jericho and Hebron were mostly in favor of Tulkarem hospital. And between Jericho and Al-Watani and Beit Jala in favor of Jericho. Jericho hospital is small in size compared to other hospitals in the West Bank, so the other units like X-ray department or laboratory are close to the ICU and health care consumers can reach it easily. Another explanation for both Jericho hospital and Tulkarem hospital is that in both cities these hospitals form the main provider of health services and so people can appreciate their importance and find them accessible and provide continuity of care.

There were no clear national standards set by the PMOH, therefore, there were differences in the staffing of professionals, differences in the buildings, equipment, procedures and protocols, managers and leaders of each unit, etc…. These differences, therefore, may explain the differences in the health care professionals' perception regarding the situation and preparations in their units.

6.10.5 Experience and the health care professionals' perception of quality:

Table 5.31-5.41 show that the professionals who had experience of less than two years perceived the quality of physical structure, infection control and safety measures, healthcare professionals' performance, performance appraisal, relationship of health professionals with patients and their families, protocols and standards, management

support, accessibility and continuity of care higher than the more experienced health care professionals.

This could be attributed to improper judgments related to lack of experience about quality issues in their units.

Shahidzadeh, Omidvari, Baradaran, and Azin (2006) found the longer years of experience as a factor that led to higher quality of care.

West,Mays, Rafferty, Rowan, Sanderson (2007)studied nursing resources and patient outcomes in intensive care units and found association between years of experience and patient outcomes including mortality and adverse effects.

Fort and Voltero (2004) found that the practical application of skills in the everyday activities (experience) affected performance more than the theoretical knowledge.

6.10.6 Continuing education and the health care professionals' perception of quality

The results showed that continuing education activities had no effect on the healthcare professionals' perception of the quality of care in their units. This result was inconsistent with the literature review. The Intensive Care Society (1997) stressed the need for providing training requirements to the healthcare professionals to improve the quality of their services.

According to the JCI, it is recommended to that health care professionals should attend training every two years to refresh their knowledge.

CACCN also stressed the importance of providing good opportunities to the ICU nurses to maintain their knowledge and skills that are needed for qualified nursing care.

Vinitwankhun (1998) emphasized the importance of human resources development as one of the factors that could protect organizational effectiveness.

West, et.al (2007) found a relationship between training and experience on patient outcomes.

6.10.7 Quality of care and mortality rate and occupancy rate

The research results showed that the healthcare professionals in the ICUs didn't see a relationship between the quality of care and mortality rate, and between quality of care and length of stay. However, they did see a relationship between quality of care and the clients' satisfaction and their satisfaction as health care professionals.

Outcomes are basic in most of the definitions used to describe the quality of care. One outcome is "the degree to which health services for individuals and populations would increase the likelihood of desired health outcome and would be consistent with current professional knowledge" (Treurniet, Mackenbach, and Maas1997).

Evaluating the effectiveness of health services to achieve the needed outcomes is necessary to evaluate the quality of care. The healthcare outcomes achieved by clients are viewed as indicators of quality of care they have received. (Braden, 1998).

The use of auditing in healthcare services is a method that can be used by managers to evaluate and control the quality of care. The most common audits used in quality control include the outcome, process and structure audits. (Marquis and Huston 2006).

6.10.8 General satisfaction of healthcare professionals with quality of care in the ICUs

It was found that the satisfaction of healthcare professionals with the quality of services was low in general. This might be due to many causes such as the improper preparations, the need for extra equipment and extra team members, the unavailability of clear standards of care, the absence of clear protocols and policies, and the poor management support for the team members. There were also no clear criteria to evaluate the quality of service provided.

Summary

This chapter discussed the general perception of healthcare professionals regarding the quality physical structure, infection control and safety measures, healthcare professionals' performance, performance appraisal, relationship of healthcare professionals with patients and their families, protocols and standards, management support and accessibility and continuity of care in their ICUs.

The chapter discussed some of the characteristics of the respondents, perception of the quality of care provided and the results of the study hypothesis.

CHAPTER SEVEN

Conclusion and Recommendations

The Palestinian MOH is in charge of 33.3% of the hospitals and 58.7% of the total hospital beds (PCBS, 2006). However, no statistics available about the percentage of governmental ICU beds from the whole West Bank ICU beds. This shows the major role that the MOH plays in providing healthcare to the Palestinians. Healthcare consumers are becoming more aware of their rights and are more able to evaluate the quality of health services provided. This study found that the general perception of the healthcare professionals, regarding the quality of care provided was low, though it was moderate regarding the professionals' relationships with the patients and their families, performance of healthcare professionals and the accessibility and continuity of care.

The young healthcare professionals (less than 25 years) who had less years of experience perceived the quality of care provided higher than the other groups, which could attributed to poor knowledge and judgment.

However, gender, continuing education activities and differences in qualifications had no effect on the perception of healthcare professionals regarding the quality of healthcare provided .Though relevant literature contradicts these results.

In the light of these findings the researcher offers the following recommendations to decision makers: managers, trainers and researchers.

Management recommendations

- Establishing a quality assurance program in the PMOH with a clear action plan to help in changing the quality level in the different units and in the ICUs in particular. For example, using the J.C. I 2001 model or the ISO model for quality assurance may be helpful. Using the experience of some other hospitals in Palestine which have used this system, like Augusta Victoria, Saint Joseph and Al-Makased hospitals in Jerusalem, might be helpful.

- Establishing clear standards for the facilities and equipment needed in the ICUs and providing them with these facilities and resources.

- Setting written clear infection control protocols and procedures policy in the ICUs rather than depending on personal knowledge in each unit.

- Establishing continuous quality improvement and performance quality monitoring system.

- Establishing a clear patient referral system that helps the healthcare professionals to put patient care plans from admission to discharge and follow up.

Training recommendations

- Providing the managers in the different ICUs with special training courses that would help them to establish better relationships with team members, enhancing their leadership skills and to help them understand the importance of management support in improving the quality of care provided.

- Provide continuing education programs to improve the health care professionals' knowledge and skills.

- Provide training in the PMOH to show the importance of quality care.

- Establish ICU specialty training programs in the Palestinian universities to cover the need for ICU education for both nurses and doctors.

- Providing health care professionals in ICUs with training on quality improvement.

- Providing the health care professionals in ICUs with training on different procedures used in the ICUs like intubations of patients, ventilator management, explanation of blood gases results, etc….

Research recommendations

- Conducting a study to assess the standards of quality of care and performance in the ICUs.

- Conducting a study to define the differences in inputs and processes available in each work settings to help in explaining the differences in healthcare professionals' perceptions revealed in this research.

- Conducting a comparative study on quality of healthcare in private and government ICUs.

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Appendix 1

Al- Quds University
Faculty of Health Professions
Nursing Department
Jerusalem-Abu Dies

بسم الله الرحمن الرحيم

جامعة القدس
كلية المهن الصحية
دائرة التمريض
القدس-أبوديس

الرقم : ج.ق/د.ت/102/ 09/05
التاريخ: 2009/5/25

حضرة الدكتور نعيم صبرة المحترم
مدير عام المستشفيات – السلطة الوطنية الفلسطينية
فاكس: 092385956

الموضوع: توزيع استبانات من أجل الحصول على المعلومات

تحية طيبة وبعد،

أرجو من حضرتكم السماح لطالبات ماجستير ادارة التمريض بجامعة القدس بتوزيع استبانات في المستشفيات الحكومية بالضفة الغربية بغرض الحصول على المعلومات من أجل استكمال متطلبات الماجستير كما يأتي:

- الطالبة دالية طوقان وستقوم بتوزيع الاستبانات بقسم الأطفال حديثي الولادة وموضوع رسالتها "تقييم معايير جودة الرعاية التمريضية وأداء ممرضات أقسام حديثي الولادة في المستشفيات الحكومية /الضفة الغربية".
- الطالبة ايمان جادو وستقوم بتوزيع الاستبانات بقسم العناية المركزة وموضوع رسالتها "العوامل التي تؤثر في جودة الرعاية الصحية في أقسام العناية المركزة / الضفة الغربية".

وتفضلوا بقبول فائق الاحترام،،،

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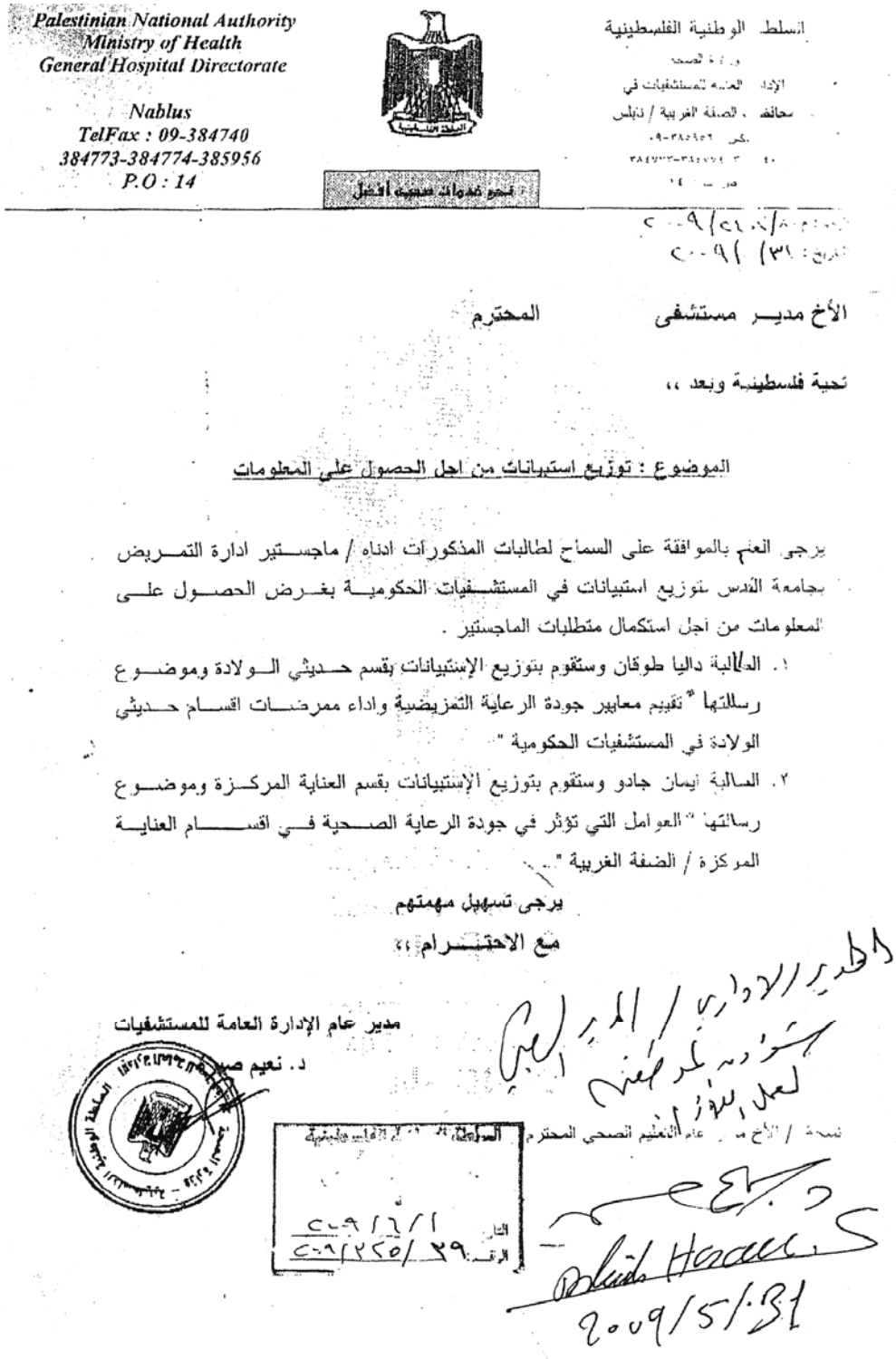
Appendix 2



Palestinian National Authority
Ministry of Health
General Hospital Directorate

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السلطة الوطنية الفلسطينية
وزارة الصحة
الإدارة العامة للمستشفيات في
محافظات الضفة الغربية / نابلس
تلفاكس ٠٩-٣٨٤٧٤٠
٣٨٤٧٧٣-٣٨٤٧٧٤-٣٨٥٩٥٦
ص.ب ١٤

نحو خدمات صحية افضل

الأخ مدير مستشفى المحترم

تحية فلسطينية وبعد ،،

الموضوع : توزيع استبيانات من اجل الحصول على المعلومات

يرجى العلم بالموافقة على السماح لطالبات المذكورات ادناه / ماجستير ادارة التمريض بجامعة القدس بتوزيع استبيانات في المستشفيات الحكومية بغرض الحصول على المعلومات من اجل استكمال متطلبات الماجستير .

١. الطالبة داليا طوقان وستقوم بتوزيع الإستبيانات بقسم حديثي الولادة وموضوع رسالتها " تقييم معايير جودة الرعاية التمريضية واداء ممرضات اقسام حديثي الولادة في المستشفيات الحكومية "

٢. الطالبة ايمان جادو وستقوم بتوزيع الإستبيانات بقسم العناية المركزة وموضوع رسالتها " العوامل التي تؤثر في جودة الرعاية الصحية في اقسام العناية المركزة / الضفة الغربية "

يرجى تسهيل مهمتهم

مع الاحترام ،،

مدير عام الإدارة العامة للمستشفيات
د. نعيم صبح

نسخة / الأخ مدير عام التعليم الصحي المحترم

Appendix 3

بسم الله الرحمن الرحيم

استبانه

حول جودة الرعاية الصحية داخل وحدات العناية المركزة في المستـشفيات الحكوميـة بالـضفه الغربيه

عزيزي/ عزيزتي المشارك/ المشاركة

أود أن أشكركم على مشاركتكم الهامة في اكمال هذه الرساله التي هي جزء من برنامج الماجـستير في إدارة التمريض – جامعة القدس.

هدف الدراسة يتمثل في تحديد العوامل التي تؤثر على جودة الرعاية الصحية داخل وحدات العناية المركزة في المستشفيات الحكومية في الضفة الغربية.

إن إجابتكم على هذه الإستبانة له الدور العظيم في تحقيق أهداف هذه الدراسة و إنني أقدر جهدكم و وقتكم الذي تبذلونه في تعبئة هذه الإستبانة و الذي يستغرق 15-20 دقيقة.

أرجو العلم بأن المعلومات التي سنحصل عليها هي لأهداف البحث العلمي و تتمتع بالسرية التامـة، كما أن لكم الحق في المشاركة أو عدمها.

وتقبلوا فائق الاحترام

الطالبه

إيمان جادو

ألجزء الاول: البيانات الشخصية و مؤهلات الطاقم الصحي في وحدة العناية المركزة

عزيزي المشارك/ة، أرجو اختيار الإجابة المناسبة فيما يلي:

البيانات الشخصية:

1- العمر بالسنوات:

1- أقل من 29 2- 30- 39

3- 40 فما فوق

2 - الجنس:

1- ذكر

2- أنثى

3- المؤهل العلمي:

1- دبلوم متوسط تمريض 2- بكالوريوس تمريض و دبلوم عالي

3- طب عام، طبيب باطني أو غير ذلك

4- المستشفى:

1- جنين 2- طولكرم

3- الوطني 4- رفيديا

5- رام الله 6- بيت جالا

7- أريحا 8- الخليل

5- سنوات الخبرة في وحدة العناية المركزة للبالغين:

1- أقل من سنتين 2- من 2- أقل من 5 سنوات

3- من 5- أقل من 8سنوات 4- 8 سنوات فأكثر

6- هل حضرت أية برامج تدريبية في مجال جودة الرعاية المركزة للبالغين لمدة لا تقل عن ستة أشهر؟

1- نعم 2- لا

الجزء الثاني: التجهيزات ، الأدوات الطبية و الأجهزة في قسم العناية المركزة و بناء الوحدة
الرجاء تحديد مدى توفر/تطبيق ما يلي في وحدة العناية المركزة بوضع X في الخانة المناسبة:

الرقم		إلى حد كبير جدا	إلى حد كبير	محايد	إلى حد قليل	إلى حد قليل جدا
7-	مساحة المنطقة المخصصة لكل مريض في وحدة العناية المركزة تمكن من تقديم الرعاية الصحية					
8	يوجد منطقة خاصة لانتظار الأهالي في القسم					
9	يوجد مكاتب خاصة لاستراحة للموظفين في وحدة العناية المركزة					
10	يوجد مصدر للهواء، الأكسجين و الشفط بجانب كل مريض					
11	يغطى السقف و الجدران بمادة عازلة و قابلة للغسل					
12	يوجد إضاءة كافية داخل الوحدة					
13	يوجد تهوية كافية في داخل القسم					
14	هنالك مصادر كهربائية كافية لايصال الأجهزة					
15	القسم مجهز بالأثاث اللازم(أسرة، خزائن،ثلاجة أدوية،...إلخ)					
16	القسم مجهز بأجهزة مراقبة , شفط و غيرها تتناسب مع عدد الأسرّة					
17	تتوفر مستلزمات الرعاية الصحية من جهاز مراقبة الأكسجين و الإبر الطبية و المحاليل و أجهزة الفحص و غيرها داخل القسم					

الجززء الثالث: إجراءات الأمان و مكافحة العدوى داخل وحدة العناية المركزة

الرجاء تحديد مدى توفر/تطبيق ما يلي في قسم العناية المركزة بوضع X في الخانة المناسبة:

الرقم		إلى حد كبير جدا	إلى حد كبير	محايد	إلى حد قليل	إلى حد قليل جدا
18	يوجد معايير دقيقة لمكافحة العدوى داخل الوحدة					
19	تتوفر كافة المواد و الأدوات الخاصة بمكافحة العدوى مثل مواد التنظيف و مستلزمات الوقاية					
20	يتم عمل جميع الفحوصات اللازمة للتأكد من خلو المرضى من أية أمراض معدية					
21	يوجد منطقة عزل خاصة للمرضى المصابين بأمراض معدية داخل وحدة العناية المركزة					
22	يتم تحديد طاقم صحي خاص للعمل مع أي مريض مصاب بمرض معدي داخل الوحدة					
23	يوجد لجنة لمتابعة مكافحة العدوى داخل الوحدة					

الجزء الرابع:
دور الطاقم الصحي في وحدة العناية المركزة:

الرجاء تحديد مدى توفر/تطبيق ما يلي في قسم العناية المركزة بوضع X في الخانة المناسبة:

الرقم		إلى حد كبير جدا	إلى حد كبير	محايد	إلى حد قليل	إلى حد قليل جدا
24	يتبع الطاقم الصحي خطوات واضحة عند إدخال أي مريض إلى وحدة العناية المركزة (مثال: أخذ العلامات الحيوية، إيصال المريض مع جهاز المراقبة...إلخ)					
25	يحرص الفريق الطبي المعالج للمريض على التواجد معا أثناء المرور الطبي لمتابعة حالة المريض					
26	يحرص من يقدم الأدوية للمرضى على الإلمام بالآعراض الجانبية الواجب مراعاتها عند إعطاء المريض أي دواء					
27	تقوم الممرضات باستدعاء الطبيب فوراً عند حدوث أي تغير في العلامات الحيوية للمريض					

28	تلم الممرضات بكل التفاصيل الخاصة بحالة المريض المتواجد في وحدة العناية المركزة					
29	يلم الأطباء بكل التفاصيل الخاصة بحالة المريض المتواجد في وحدة العناية المركزة					
30	تعتني الممرضات بالمناطق المتصلة بجهاز قياس العلامات الحيوية و رسام القلب(Monitor) على جلد المريض لتلافي أي إصابات أو التهابات.					
31	يتابع الأطباء جميع التغيرات التي تطرأ على حالة المريض باهتمام و دون تأخير					
32	تلم الممرضات بالاحتياطات الواجب اتباعها عند وضع المريض على جهاز التنفس					
33	يلم الأطباء بالاحتياطات الواجب اتباعها عند وضع المريض على جهاز التنفس					
34	يفهم التمريض معنى تغير نسبة الغازات في الدم					
35	يقرر التمريض كيفية التعامل مع معايير جهاز التنفس للمريض الذي يعطى تنفسا بالجهاز					
36	يفهم الأطباء معنى تغير نسبة الغازات في الدم					
37	يقرر الأطباء كيفية التعامل مع معايير جهاز التنفس للمريض الذي يعطى تنفسا بواسطة الجهاز					
38	تتأكدالممرضات من أن كل الوصلات و الأجهزة التي توصل للمريض تعمل					
39	تتقن الممرضات استخدام جميع الأجهزة الموجودة في الوحدة					
40	يتقن الاطباء استخدام جميع الأجهزة الموجودة في الوحدة					

الجزء الخامس:

آليات تقييم الأداء في وحدات العناية المركزة

الرجاء تحديد مدى توفر/تطبيق ما يلي في قسم العناية المركزة بوضع X في الخانة المناسبة:

الرقم		إلى حد كبير جدا	إلى حد كبير	محايد	إلى حد قليل	إلى حد قليل جدا
41	يوجد آلية واضحة لتقييم أداء الممرضين في وحدة العناية المركزة					
42	يوجد آلية واضحة لتقييم أداء الأطباء في وحدة العناية المركزة					
43	يوجد شخص مسؤول عن جودة الأداء داخل وحدة العناية المركزة					
44	يتم متابعة جودة الأداء من قبل جهات رسمية خارجية					
45	يوجد نموذج خاص لتقييم رضى المرضى داخل وحدة العناية المركزة					

الجزء السادس:

علاقة الطاقم الصحي مع المرضى وأهلهم مع أفراد الطاقم الصحي داخل وحدة العناية المركزة ***الرجاء تحديد مدى توفر/تطبيق ما يلي في قسم العناية المركزة بوضع X في الخانة المناسبة:***

الرقم		إلى حد كبير جدا	إلى حد كبير	محايد	إلى حد قليل	إلى حد قليل جدا
46	يقوم الطاقم الصحي بإمداد الأهل بالمساندة النفسية للتقليل من التوتر الناتج عن وجود المريض في الوحدة					
47	يقوم الطاقم الصحي بإعطاء المعلومات المتعلقة بصحة المريض أثناء تواجده في وحدة العناية المركزة					
48	يقوم الطاقم الصحي بإعطاء المعلومات الكافية للأهل عند وجود المريض في وحدة العناية المركزة					
49	يحافظ الطاقم الصحي على علاقة مهنية جيدة مع ذوي المرضى و تقبل تصرفاتهم الناتجة عن الضغط النفسي					

الجزء السابع:

البروتوكولات و المعايير داخل وحدة العناية المركزة

الرجاء تحديد مدى توفر/تطبيق ما يلي في قسم العناية المركزة بوضع X في الخانة المناسبة

الرقم		إلى حد كبير جدا	إلى حد كبير	محايد	إلى حد قليل	إلى حد قليل جدا
50	يوجد تعليمات واضحة للقيام بها عند إدخال المرضى إلى وحدة العناية المركزة (مثال: أخذ العلامات الحيوية، إيصال المريض مع جهاز المراقبة...إلخ)					
51	يوجد آلية واضحة للتواصل بين أفراد الطاقم الصحي					
52	يوجد آليات واضحة للتعامل مع أهل المريض الموجود داخل وحدة العناية المركزة					
53	يوجد آلية واضحة لعمل الفحوصات عند دخول المريض إلى القسم					
54	يوجد معايير واضحة يجب الإلتزام بها عند وضع الحد الأعلى و الأدنى لجهاز الإنذار حسب حالة المريض					
55	يوجد بروتوكول ثابت يجب الإلتزام به لأخذ العلامات الحيوية و تقديم الخدمات التمريضية					
56	يوجد آلية واضحة للتعامل مع المريض الذي يحتاج إلى جهاز تنفس (بروتوكول خاص)					
57	يوجد نماذج و آليات خاصة لتوثيق الرعاية الصحية داخل وحدة العناية المركزة					
58	يوجد معايير خاصة لاتباعها من قبل الطاقم الصحي لمنع العدوى داخل وحدة العناية المركزة					

الجزء الثامن: دعم الإدارة داخل وحدة العناية المركزة

الرجاء تحديد مدى توفر/تطبيق ما يلي في قسم العناية المركزة بوضع X في الخانة المناسبة:

الرقم		إلى حد كبير جدا	إلى حد كبير	محايد	إلى حد قليل	إلى حد قليل جدا
59	تدخّل الإدارة في وحدة العناية المركزة يساعد في تحسين اداء الطاقم الصحي					
60	يمكن للعاملين في وحدة العناية المركزة الرجوع للإدارة إذا واجهتهم أية مشكلة في العمل					
61	تقوم الإدارة بتقديم جميع التسهيلات و المواد اللازمة للعمل					
62	تعقد اجتماعات دورية مع أفراد الطاقم الصحي داخل الوحدة					

الجزء التاسع: إمكانية الوصول إلى العلاج و استمراره

الرجاء تحديد مدى توفر/تطبيق ما يلي في قسم العناية المركزة بوضع X في الخانة المناسبة:

الرقم		إلى حد كبير جدا	إلى حد كبير	محايد	إلى حد قليل	إلى حد قليل جدا
63	يتم إدخال المريض إلى القسم بسهولة					
64	يتم إعطاء الأولوية للمرضى ذوي الحالات الطارئة للتقييم و العلاج					
65	عند إدخال المريض إلى وحدة العناية المكثفة ، يتم إعطائه المعلومات اللازمة					
66	يقدم المستشفى آليات و برامج لتوفير استمرارية العلاج					
67	تتم متابعة المريض خلال مراحل المرض المختلفة داخل القسم					
68	تتم متابعة المريض بعد خروجه من وحدة العناية المركزة					
69	يتم تحديد شخص مؤهل من أفراد الطاقم الصحي كمسؤول عن تقديم الرعاية الصحية لكل مريض خلال مراحل العلاج المختلفة					
70	يقوم ا المستشفى بالتعاون بين أفراد الطاقم الصحي و المؤسسات الخارجية لتأكيد التحويل المناسب					
71	يتم توفير أحد أفراد الطاقم الصحي المؤهلين لمرافقة المريض خلال عملية التحويل لإجراء التصوير أو أي تحاليل خاصة					

حسب رأيك ما مدى ارتباط جودة الرعاية الصحية في وحدة العناية المركزة بما يلي:

الرقم		إلى حد كبير جدا	إلى حد كبير	محايد	إلى حد قليل	إلى حد قليل جدا
72	رضا الطواقم الصحية عن العمل في القسم					
73	رضا المرضى الموجودين داخل وحدة العناية المركزة					
74	نسبة الوفيات في القسم					
75	نسبة أيام العلاج في الوحدة					

- بشكل عام ما مدى رضاك عن جودة الخدمات في وحدة العناية المكثفة

76

راض بشدة	راض	محايد	غير راض	غير راض بشدة

Appendix 4

Dear Participants:

I would like to thank you for your cooperation and participation in this study, which is a requirement for the Masters degree- Al-Quds University
The aim of the study is to assess that factors that may affect the quality of health care in ICUs from the perception of health care professionals.

You need 15-20 minutes to fill this questionnaire. I would like to assure you that information taken are only for research purposes and will be kept confidential. You may choose not to participate or withdraw at any time
The following variables are used to identify the degree of your response: - very high limit- high- no effect-low- very low.

With respect
Iman Jadou

Items related to the characteristics of health care professionals.

Dear participant, please choose answer from one of the followings:

1-Age in years:

1- Less than 29 years 2-from 30- 39 years
3- from 40 and more

2- Gender:
1- Male 2- female

3- Scientific qualifications
1- Nursing diploma 2- BA degree in nursing or higher
3- BA in medicine, medical specialist or other specialty

4- Working setting
1- Jennin 2- Tulkarem
3- Al-Watanee 4- Rafeedia
5- Jericho 6-Ramallah
7- Beit Jala 8- Hebron

5- Years of experience in adults ICU unit
1- Less than 2 years 2- from 2 years to less than 5 years
3- From 5 years to less than8 years 4- 8 years and more

6-Have you ever attend any training in quality health care in intensive care units:
1- Yes 2- no

Part 2: Physical structure:
Please put **X in the** place best announces your answer:

number		Very high limit	High limit	No effect	Low limit	Very low limit
7-	The area for each patient in the unit is enough					
8-	There is a waiting area for family members					
9-	There is a special areas for health care professionals to rest in ICU					
10-	There is an oxygen, air and suction sources as needed beside each bed					
11-	The ceiling and walls are covered with special isolating material that is possible to wash					
12-	The lighting in the ICU is enough					
13-	The ventilation in the ICU is enough					
14-	There is enough electrical sources to connect the machines					

15-	The unit is supplied with all the furniture needed					
16-	The unit is supplied with all the needed equipment including monitors, suction, etc according to number of beds					
17-	All the medical supplies including infusions, pulse oxy meters, medications, etc are available					

Part 3: Infection control and safety measures in the ICU

Please identify how much the followings are applicable on the ICU by putting X in the right place

18-	There is specific standards for infection control in the ICU					
19-	All medical supplies necessary for infection control including cleaning materials are available					
20-	All medical tests necessary to ensure that patient is free from any infectious diseases are done					
21-	Patients who have any infectious diseases are isolated in special area in the ICU					
22-	Special health care professionals are identified to work with patients who have any infectious diseases					
23-	There is a special infection control committee in the ICU					

Part 4: health care professionals' performance in ICU

Please identify how much the followings are applicable in the ICU by putting X in the right place

24-	Health care professionals follow clear steps when admitting patient to the unit(e.g. vital signs, connecting patient to monitor,etc)					
25-	Health care professionals are careful to attend the medical round together to follow the progress of the cases					
26-	The health care professional who admits medications is cautious to know its side effects					
27-	The nurse calls doctor immediately in case of any vital signs changes					
28-	The nurses are knowledgeable about all case details for patients in the ICU					
29-	Doctors must have all the details about any case in the ICU					
30-	Nurses take care of skin areas where they connect the monitor to prevent any infections					
31-	Doctors follow up the changes in the patient case carefully and with no delay					
32-	The nurses are knowledgeable about the protocols that should be followed when putting the patient on a ventilator					
33-	Doctors are knowledgeable about the protocols that should be followed when putting the patient on a ventilator					
34-	Nurses understand the meaning of blood gas					
35-	Nurses make decisions about how to deal with ventilator set up for patients on a ventilator					
36-	Doctors understand the meaning of blood gas					
37-	Nurses make decisions about how to deal with ventilator set up for patients on a ventilator					
38-	Nurses must ensure that all the					

	connections and machines are working effectively					
39-	Nurses are able to use all the machines in the ICU					
40-	Doctors are able to use all the machines in the ICU					

Part 5: Performance appraisal procedures in the ICU

Please identify how much the followings are applicable in the ICU by putting X in the right place

41-	There is a clear procedure for nurses performance appraisal in the unit					
42-	There is a clear procedure for doctors performance appraisal in the unit					
43-	There is a specific person responsible about the quality of performance in the unit					
44-	The quality of performance is observed by formal outer party					
45-	There is a special form to evaluate the patients satisfaction in the unit					

Part 6: Patient and family relationships with the health care professionals in the ICU:

Please identify how much the followings are applicable in the ICU by putting X in the right place

46-	Health care professionals give psychological support to the family to help in decreasing their stress					
47-	Health care professionals give information related to the patient during hospitalization					
48-	Health care professionals give enough information to the family during the hospitalization					
49-	Health care professionals keep a professional relationship with the patients and accept their attitudes that result from stress					

Part 7: the protocols and standards in the ICU:

Please identify how much the followings are applicable in the ICU by putting X in the right place

50-	There is specific steps to follow when admitting patient to the unit					
51-	There is clear lines of communication among health care professionals					
52-	There are clear procedures to treat family members and giving them information about their patient					
53-	There are clear procedures for making lab studies at the admission					
54-	There are clear standards to set the monitors alarms(higher and lower limits) according to the case					
55-	There is a strict protocol to follow for vital signs and giving the nursing care					
56-	There is a clear protocol to deal with patients on mechanical ventilation					
57-	There are special forms to document health care in the ICU					
58-	There is specific standards to follow for infection control in the ICU					

Part 8: Management support in the ICU:

Please identify how much the followings are applicable in the ICU by putting X in the right place

59-	Administration interference in the unit help in improving professional performance					
60-	health care professionals can go back to the administration if they face any work problems					
61-	The administration provides with all the facilities and materials needed for work if asked					
62-	Regular meetings are done with the team members in the ICU					

Part 9: Accessibility and continuity of care

Please identify how much the followings are applicable in the ICU by putting X in the right place

63-	The patient admission process to the unit goes easily					
64-	Emergency patients are given the priority for evaluation and treatment					
65-	When patient is admitted to the unit he/she is given the needed information					
66-	the institution provides with protocols to ensure continuity of care					
67-	The patient is followed up during different treatment stages in the ICU					
68-	The patient is followed up after his/her discharge from the ICU					
69-	A special health care professional is assigned for providing health care for each person in the ICU					
70-	The health care institution cooperates through health care professionals and other community institutions to ensure to ensure the accurate referrals					
71-	A qualified health care professional accompanies patients during X-rays,, scanning or other examinations					

Please specify how much the quality of care is linked with the followings:

72-	health care professionals satisfaction					
73-	patients satisfaction in the ICU					
74-	mortality rate in the ICU					
75-	Admission days in the ICU					

Please specify your satisfaction level with the quality of services in the ICU:

76-	So much satisfied	satisfied	No opinion	Not satisfied	Very much unsatisfied